CHEMIST & DRUGGIST

INCORPORATING RETAIL CHEMIST

APRIL 22 1978

Diabetes
SPECIAL SUPPLEMENT

The case for arbitration explained

Education campaign to cut drugs bill

'Drop charges on BP drugs'

Get ready to *maclean* up

The most successful Beecham Proprietaries promotion ever is back again.

Yes, the 1977 record-breaker is back with even more FREE CASH.

For 3 proofs of purchase your customer will receive:–

50p on the giant size **30p** on the large size

40p on the economy size **20p** on the standard size.

That means not only is there an incentive for multiple purchases but an added bonus for buying the larger sizes.

And this year, we've really given the packs standout, so your customers won't miss them.

See your rep, place your order and get ready to *maclean* up.

CHEMIST & DRUGGIST

Incorporating Retail Chemist

22 April 1978
Vol 209 No 5114

119th year of publication
ISSN 0009-3033

Editor Ronald Salmon MPS
Assistant Editor Adrienne de Mont BPharm MPS
Technical Editor Graham Thorne BPharm MPS
Beauty Editor Kim Pearl
Information services Ivan Cotgrove
Advertisement Manager Peter Nicholls JP
Director Arthur Wright FPS DBA

CONTENTS

Published Saturdays by Benn Publications Ltd
25 New Street Square, London EC4A 3JA. Tel: 01-353 3212

Editorial and Advertisement Offices
25 New Street Square, London EC4A 3JA. Tel: 01-353 3212
Telex 27844

Regional advertisement offices

Midlands	240-244 Stratford Road, Shirley, Solihull, West Midlands B90 3AE 021-744 4427
North east	Permanent House, The Headrow, Leeds LS1 8DF. 0532 452841
Scottish	74 Drymen Road, Bearsden, Glasgow 041-942 2315
North west	491 Chester Road, Old Trafford, Manchester M16 9HF 061-872 5151
West country & south Wales	10 Badminton Road, Downend, Bristol BS16 6BQ 0272 564827

Subscription Department
125 High Street, Colliers Wood, London SW19 2JN.
Tel: 01-542 8575

Subscription
Home £25 per annum. Overseas £30 per annum.
60p per copy (postage extra)

Benn ABC Member of the Audit Bureau of Circulations

COMMENT

Behind closed doors

What went on in the PSGB Council chamber when the Clothier report on rural dispensing was discussed earlier this month? Very little we are led to believe from the official report (last week p592)—but in fact a very great deal if *C&D*'s private information is correct. And so there should have been, on an important issue which has aroused considerable passion over the fundamental rights of the profession. Council saw fit to accept the report with such bad grace that it prefaced its motion with a statement of these rights rather than by adding them as a corollary. If the medical profession handles its decision with similar ineptitude the prospects look bleak for the scheme proposed by Clothier (which would do much to safeguard existing rural pharmacies even if it does little to stimulate the establishment of new ones).

The official report treats the membership with contempt. When the branches were invited to comment, 48 were for acceptance (10 unequivocally and 38 with some qualification) and 16 recommended rejection; four regions were in favour and three against. The PSNC had an even stronger response in favour from Local Pharmaceutical Committees—44 for acceptance and 7 for rejection. Why then was the membership not taken into Council's confidence over the obvious disagreement within its ranks. Which three members of Council voted against the proposal, apparently in conflict with the expressed views of the branches? Who were the "silent ten" who were either absent or failed to express an opinion—despite the evidence from branches? If to give names during the run up to the Council election might have swayed voters, so much the better!

The Council itself was represented on Clothier by the immediate past-president and a member in rural practice; PSNC also had rural representation, so it is difficult to see how a formula more acceptable to Council could have been secured if it was also to be acceptable to the medical profession (which has to make concessions too).

Clothier's report, as we see it, at least provides a basis for ensuring that the services of pharmacists survive in rural areas—and that is another "principle" worth fighting for. *Of course* the profession (as well as Council) sees the proposals as an "interim" solution. But if rural communities continue to lose pharmaceutical services they will be forced to live without them and eventually public pressure for the expansion of these services will diminish—to the disadvantage of both the community and the profession.

About that £50m

Pharmacists will have already predicted from past experience that none of the £50 million for the NHS announced in Mr Healey's Budget was intended for retail pharmacy.

However, the money has no specific purpose but is to be divided between regional health authorities for spending according to their own priorities. The authorities must inform Mr Ennals of their decisions by June.

Last week *C&D* mentioned a report from pharmacists in the Northeast Thames RHA which urged the Region to press the Department of Health to help community pharmacies. Perhaps there is an opportunity here for the Region to start the ball rolling by finding ways in which it can allocate some of its new money to pharmacies in its area—the health educational role springs immediately to mind.

To use Mr Ennals' own words when announcing the proposals: "We are anxious to use the money in a way that the public is aware of". What better way to make the public aware than to rescue a vital service?

Coroner criticises dispensing system

The Manchester district coroner, Mr Peter Revington, said at a Stockport inquest last week that he found a hospital system for dispensing drugs "terrifying and appalling". He condemned as "extraordinarily slack" the hospital administration which allowed mistakes to happen and which led to the death of a woman who was given the wrong drug.

The inquest heard of confusion between two women named "Mrs Williams" at St Thomas's Hospital, Stockport. Mrs Irene Williams, of Maybury Road, Stockport, was given a drug which proved lethal when combined with another she was given at the hospital. A finding of misadventure was recorded. Mrs Williams left the hospital for a weekend at home where her husband found her dead.

Dr Frank Aaron, pathologist, said death was due to acute cardiac failure. Tests had revealed that Mrs Williams had been prescribed phenelzine in the hospital and had also taken clomipramine. Psychiatrist Brian Alexander Lowe, who was treating Mrs Williams, said clomipramine was prescribed for a different patient and was not on Mrs Williams' notes. He understood that the medication procedure for patients going home for the weekend was that the prescription was copied by a ward aide into a special book, used by the pharmacist to supply the drugs which were normally checked against the prescription sheet by a nurse. Originally the medication book was signed by a doctor, but not for some years.

Mistake acknowledged

The ward aide, Mrs Marion Bosanko, agreed that a mistake had been made, possibly because she had been busy and there were many interruptions when she was filling in the prescription sheets. "There were two Mrs Williams on the ward and this is where the mistake could have happened."

Mr Graham John Elford, pharmacist, said he operated the St Thomas's pharmacy on a morning only basis and had inherited a system which had been going for several years. The ward aide copied the patient's medication from the drug sheets in the prescription book. Each page contained nine to ten names and, when completed, it was sent to the pharmacy for dispensing. When he started at the hospital the prescriptions did not have a medical signature on them and he operated the system in good faith.

The coroner: "You are a member of a distinguished profession—you have been qualified for seven years—are you saying as a professional pharmacist you were prepared to dispense drugs, without the written prescription of a registered medical practitioner, as a matter of usual conduct?" Mr Elford: "Yes, it is what has been done before." He said it did not occur to him it was illegal and said patients on the prescription sheets may have had different doctors. The coroner said: "I simply cannot imagine how the professionals, the experts—not just at hospital level but further up in the chain of command—who are supposed to be monitoring everything, did nothing."

He was pleased to note that a new system had been introduced.

LPC calls for a paid negotiator

Swansea and Glamorgan Local Pharmaceutical Committee is calling for the appointment of a professional negotiator to deal with chemists' remuneration matters.

The committee passed the following resolution recently: "That in view of the vast amount of money involved with NHS work then a full time negotiator is required to deal with our problems and our contract. The committee suggests that the voluntary levy to the PSNC be diverted to the payment of a professional negotiator."

The committee feels that in view of the PSNC's "almost total lack of success in negotiating" coupled with the fact that its arguments were built around the hope that the Secretary for Social Services would agree to arbitration, then the only way forward is to engage a negotiator "conversant in dealing with matters at Ministerial level."

Mr Martyn Lloyd, secretary, Swansea LPC, told *C&D* that the committee intends to inform other LPCs of the resolution but will not take any further action until the amount of support has been assessed. "If LPCs got really militant they could refuse to sign the voluntary levy form."

GLC wants to be London's RHA

The Greater London Council must be given a bigger say in planning the capital's health services and ought to become the regional health authority for London, says a report from County Hall.

Present arrangements for involving the council in health service planning matters are described as "highly unsatisfactory". Talks aimed at securing a much closer liaison should be held immediately with the Department of Health and the Department of the Environment, adds the report which was considered this week by the GLC's Policy and Resources Committee.

"The health services are important employers, land owners and resource consumers in addition to being suppliers of medical and social services. Clearly their stragtegy should not be planned in isolation from the GLC which is the strategic and regional planning authority," says Mr Richard Brew, committee leader. "Hospitals are closed and crises arise in the general practitioner service in Inner London and we are not told."

No NHS charge for official drugs?

A proposal that the prescription charge for official, non-proprietary drugs should be dropped, is put forward in the latest *Drug and Therapeutics Bulletin*. Doctors would then have some motivation for rationalising their prescribing without undue restriction, and the money saved in drug costs should offset the 20p loss.

At present many hospital pharmacists are allowed to dispense the cheapest satisfactory preparation, even if a more expensive proprietary brand is prescribed. The *Bulletin* suggests this system could be extended to general practice if prescription forms carried the words "please dispense non-proprietary equivalent", to be deleted at the doctor's discretion.

"The retail pharmacist would suffer because part of his remuneration is based on the costs of the drugs he dispenses: this would need appropriate adjustment," says the *Bulletin*.

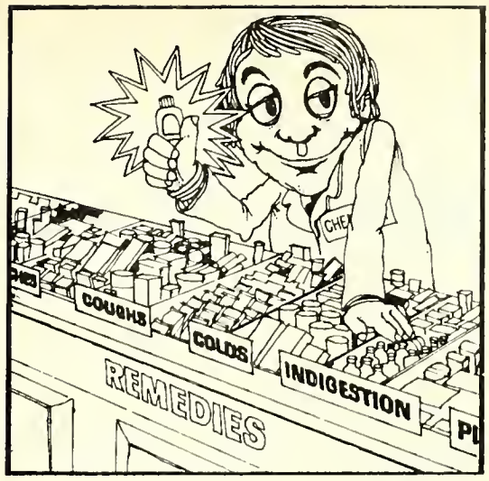
The article points out that the pharmaceutical industry already copes with this type of restriction in many countries where only a proportion of drugs marketed are available under a health scheme. If a doctor prescribes other drugs, patients cannot claim the cost back from their insurance scheme. The companies therefore have to overcome two barriers when marketing a new drug—firstly marketing permission, secondly approval by the health scheme panel.

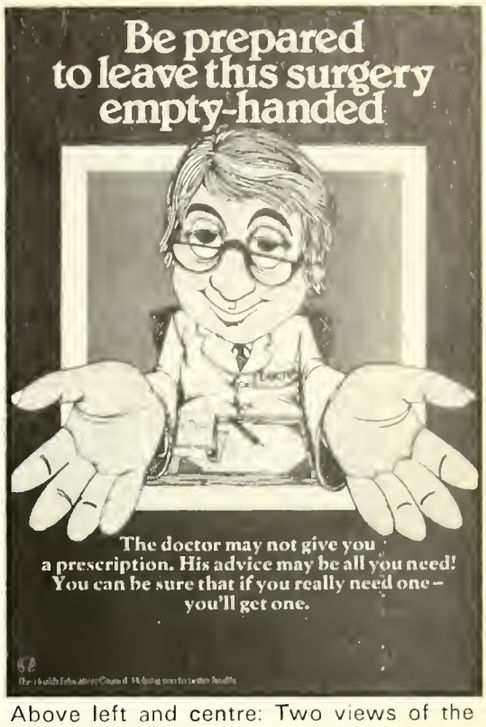
Regulations delay?

A Parliamentary question seeking a delay in implementation of cosmetics regulations was due to be answered this week after *C&D* went to press. Sir Bernard Braine, MP, was to ask the Secretary for Prices whether—in the light of difficulties likely to be caused to retail chemists by the proposed regulations enforcing EEC cosmetics Directives—he would postpone the date for implementation.

Unichem's 20,000!

Unichem have received over 20,000 entries for their "castaway prices" consumer promotion competition. The closing date was April 15 but the entries were still being counted as *C&D* went to press.





Above left and centre: Two views of the pharmacist as caricatured in the "cut the drugs bill" campaign leaflets. Above right: The poster for display in doctors' waiting rooms. *Courtesy Health Education Council*

Ask the pharmacist and help cut drugs bill

A campaign to cut the drugs bill by educating the public not to expect a prescription after every visit to the doctor, was launched on Wednesday. Leaflets issued by the Health Education Council for distribution in doctors' waiting rooms recommend asking a pharmacist's advice first for simple ailments.

One leaflet, "Why are we waiting?" says: "People sometimes go to the doctor with simple illnesses which don't need a prescription. That means surgeries are fuller; it takes longer to get an appointment; and it may delay someone who needs urgent treatment. Coughs and colds, for instance, may just need a simple remedy from a chemist's shop. You can usually relieve headaches with aspirin. Indigestion with alkaline powder. Constipation with a laxative. You can get these and other remedies without prescription and save the doctor's time—and your own. There are people at the chemist's who have thorough training and can advise you on medicines and pills. Ask their advice. If they think you should see a doctor, they'll tell you."

Another, "The doctor's got writer's cramp," reads: "It's probably all those prescriptions he has to make out each day. The problem is, most people don't believe the doctor's helped them unless they are given a prescription. They don't realise that in many cases a prescription isn't necessary at all. Just a few words of advice from the doctor can often do the job just as well. And for many of those troublesome, but trivial, matters (like headaches, colds or indigestion) you don't even need the doctor. Your local chemist can tell you what to take. If that doesn't put it right, then see the doctor. So remember, if the doctor doesn't give you a prescription don't worry."

The UK government's views on retailing

The UK Government is very conscious of the economic significance of the retail trade and "I neither have the inclination nor see the need to interfere more than I have to in the running of distribution," said Mr Edmund Dell, Secretary for Trade, this week. Mr Dell was replying to Mr Joseph Godber, chairman of the Retail Consortium, who criticised the hampering of retailing by Government red tape when he opened the World Conference of Retailers in London.

Mr Dell pointed out that consumer taste and demand was heavily influenced by wholesale and retail systems because what was available in shops depended on the buying policies of the trade. Approximately one-fifth of UK exports and imports are of finished retail goods. Through the extent of their independence of Government over what they bought and sold, retailers were a major force for free trade.

He said circumstances were still a long way from the 1930s although comparisons were often made. Only in 1975 did the world trade actually fall—last year it grew by 4 per cent and there had been a yearly average growth of over 10 per cent up to 1973. In 1932 output was down by one third of its peak three years before and world trade fell by a half. Nevertheless there still existed the deepest economic crisis of the post-war world. The retail industry was in the business of supplying customers with the best products from every part of the world.

"Governments would love to allow you to continue," he said, but under pressure it is to economic security (the achievement of balance in payments) and to the exclusion of competitive threats to home industries that policies would turn.

Britain remained convinced of the need to defeat creeping protectionism and of the benefits of maintaining an open world trading system. Policies were directed to this end but it was feared, however, that the open trading system would crumble further unless ways could be found of stimulating world trade and economic growth.

The conference was attended by some 600 delegates from 32 countries and is the first time England has been host to retailers on an international scale.

Numark on TV without 'title'

Numark have just completed the first week's burst with a new 30-second television commercial that avoids any reference—visual or verbal—to restricted professional titles. Screened in support of the current "babytime" promotion in Ulster and the three Scottish ITV stations, the commercial is backed by a new jingle: "You want choice . . . you want price . . . somewhere near and nice . . . that's the mark of a Numark shop." The viewer sees a family visiting the shop (unidentified but clearly a chemists), examining product choice and products and approving the prices. A radio commercial has also been prepared with the same theme.

The TV commercial will be repeated (with other product promotions) in the same regions during June and October, when it is planned to extend local campaign to other TV stations. And in May, Numark are claiming another "first" with a double-page spread to be taken in *The Sun*, the optional dates being either May 10, 11 or 12. Numark hope that the commercials will help to improve both consumer awareness of the group and its competitive price image. The film was shot at the pharmacy of London Numark member Mr D. Green.

Decline in 'pill' use forecast

Renewed anxieties about the long term effects of oral contraceptives will probably lead to a decrease in use, predicts Ann Cartwright, Institute for Social Studies in Medical Care.

In a report, "Recent trends in family building and contraception" (£1.75), published recently by the Office of Population Censuses and Surveys, she says that evidence of a lower rate of "pill" taking among young mothers with a university education could be the beginning of such a trend. "But I do not think this will be accompanied by a substantial increase in unprotected sexual intercourse or in the use of ineffective methods of contraception," she writes. "People who switch from the security of the 'pill' because of possible side effects are likely to demand and use alternative methods that are also reliable." An increasing number will use sterilisation or the IUD, she believes.

She bases her conclusions on three studies of the contraceptive methods of mothers who had recently given birth, carried out in 1967-68, 1973 and 1975. The proportion currently taking the "pill" doubled from 20 per cent to 43 per cent between 1967-68 and 1973 but levelled off to 42 per cent by 1975. Corresponding usage of the sheath was 35 per cent, 22 per cent and 27 per cent; the cap 5 per cent, 2 per cent and 3 per cent, and the IUD 3 per cent, 6 per cent and 7 per cent. However, at least three-quarters of the interviews for the first two studies were carried out when the babies were five to seven months old, whereas 95 per cent of the 1975 interviews were done when the babies were younger, so it was likely that in 1975 fewer women had had an IUD fitted by the time they were interviewed.

When asked what contraceptive methods they had ever used, 74 per cent had used the "pill" in 1975 compared with 28 per cent in 1967-68; 69 per cent in 1975 said they had used the sheath, compared with 67 per cent in 1967-68.

Doctor jailed after drugs charge

A general practitioner was sentenced to six months imprisonment concurrently on each of three charges, fined £50 on each charge and suspended for two years after pleading guilty to dishonestly obtaining drugs.

Dr Noel Patrick Burns, aged 50, of 19 Balfour Road, Acton, had been suspended from the medical register on two earlier occasions for similar offences, Tottenham court was told, last week. He pleaded guilty to dishonestly obtaining Catapres, Trandate, Apresoline and Fortral worth £22.65 from Beryl Allen at Tombs Chemists, 14 Kendal Parade, Silver Street, Edmonton, on January 3; obtaining Fortral worth £4.55 from Julius Michaelson at the same place on January 30 and obtaining Fortral worth £4.55 from Rosemary Lucas at the same place on February 2.

On February 23 Dr Burns was seen by the police and admitted the drugs were for his own use. He said he suffered from high blood pressure and and would die if he did not have them.

Mr Allan Levy, defence counsel, told the court that Dr Burns was working in Malaya during the emergency there and got himself into difficulties with pethidine. He was no longer using narcotics, but when he went for an examination in August last year he discovered he had very high blood pressure. He wrote to his own doctor but got no reply and so started making out the prescriptions. He was given seven days to pay the fines.

Queen's awards to industry for 1978

Recipients of the Queen's Award for Export Achievement include: Alginate Industries Ltd; Fisons Ltd, pharmaceutical division; International Generics Ltd; Kodak Ltd.

Recipients of the award for Technological Achievement include: ICI pharmaceutical division; ICI plant protection division; Research Institute, Smith Kline and French Laboratories Ltd. Further details will appear in *C&D* next week.

Lister labs close

The vaccine and sera laboratories of the Lister Institute, Elstree, Herts, are to close because of lack of money. Bulk production will cease immediately but a spokesman said the laboratories held sufficiently high stocks to meet all commitments for several months. He thought the supply of vaccines would probably then be taken over by the Wellcome Foundation and Evans Medical Ltd.

Cancer drug found by computer

American researchers have produced what is expected to be the most potent anti-cancer drug, with the aid of a computer called Prophet. One dose of the drug, azetomicin, is said by the *Sunday Times* to have killed hundreds of millions of cancer cells in mice but as yet has not been tested in humans. According to the newspaper report, animals with malignant tumours as large as 15 per cent of body weight have been cured with a single dose. Dr Martin Apple, head of the University of California team, used the computer to simulate three-demensional molecules that would bind with cancer DNA. "Prophet almost never misses in judging whether a new drug will work on people," Dr Apple is quoted as saying.

LETTERS

Gloomy outlook in health centres

Mr Gordon Hill, in his address to the Institute of Pharmacy Management International conference (last week, p589), certainly paints a gloomy future for retail pharmacy. I must say that I totally disagree with his philosophy and find his attitude positively harmful to our profession!

What possible extra job satisfaction does Mr Hill derive from working within the antiseptic confines of a health centre? Surely in such a place there can only be a limited degree of contact with members of the general public at large. This must lead to a lack of awareness of the public needs regarding an adequate pharmaceutical service.

Surely the time has come for our profession to take a positive step forward and free ourselves from this "slough of despond"! I would like to see pharmacists working in community pharmacies in groups of two or more, not in a health centre. One pharmacist could always be available to answer queries from the public and give advice on various health problems including OTC prescribing. There could be follow-up visits to certain patients at home to see how they cope with their medication. Perhaps even a mobile pharmacy unit could be attached to the practice to serve the needs of outlying areas. The possibilities are endless.

We may need changes in the law to achieve this but surely we must, as a profession, become "masters of our own destinies" pretty soon or face the prospect of even greater professional obscurity than Mr Hill's grim words suggest.

C. Martin
Slough

Off centre

I was interested to read your report on the IPMI conference in which pharmacists were urged to enter health centres. Very good advice if only one is allowed to follow it.

A 21-doctor health centre recently opened in Sunderland. A five-doctor surgery 200 yards from my shop moved into it causing a drop of about 1,000 scripts a month. I am not allowed a part of the consortium because my shop is more than half-a-mile away from the centre—apparently someone somewhere made this decision and there seems to be no appeal body.

I can only presume that the powers that be are planning the enforced closure of all such shops as mine (that is, serving a large, isolated estate) out of the magic half mile.

M. T. Tulloch
Pennywell, Sunderland

Judges of a Numark chemist competition organised by Bowater-Scott Corporation Ltd were, left to right: John Goulding, National Pharmaceutical Association, Adrienne de Mont, assistant editor *C&D* (independent judge), and Sune Hemberg, Bowater-Scott market manager. The winner, Mrs C. Kilpatrick, 36 Alloway, Ayr, will receive her colour television prize in early May. Second prize goes to Karen Gallant, Norwich.

PEOPLE

Pharmacists honour their ex-chief

Past and present pharmacy staff from University College Hospital gave a reception last week for Dr Douglas Whittet, ex-chief of their pharmacy department and retiring chief pharmacist of the Department of Health.

The reception, which was organised by Mrs Midge Davies and Mr Stephen Powlson, retired chief pharmacist of the Brompton Hospital, was held at the Pharmaceutical Society's headquarters. Dr Harold Davis, Dr Whittet's predecessor in both posts, spoke of his own term of office at University College Hospital, mentioning the time, during the second world war, when Miss Agatha Christie was his dispensing assistant! He presented Dr and Mrs Whittet with a pair of early 20th century silver vases and a sweet dish as a token of the great esteem in which Dr Whittet was held by his staff. Donations had been received from all over the country.

Replying, Dr Whittet said that the pharmacy at University College Hospital was a very special and happy place and that to have once worked there was like joining a world wide club. He told of the ex-UCH pharmacists he had met when he went to the Commonwealth Conference in Australia in 1972, stopping at Singapore, Hong Kong and Bangkok.

Mr Kenneth Moxley, general sales manager of Marfleet Refining Co Ltd, has retired after 44 years' service. He joined British Cod Liver Oils Ltd in 1934 when it was first established and has been involved for most of his career in the development of the now extensive export business, particularly the sales of Seven Seas cod liver oil products, which now extend to about 100 different countries.

Mr B. P. Ellis, district pharmaceutical officer at St George's Hospital, London, is the 1978 recipient of the Geigy Travelling Fellowship. His topic is "Patient counselling by pharmacists" and he intends to visit a number of hospital pharmacy departments and general practice pharmacies in the USA where patient counselling has been developed. Mr Ellis will present his paper at the Guild of Hospital Pharmacists' weekend school to be held early April 1979 in Liverpool.

Mr Eric Brocklehurst, FPS, and his wife, **Mrs Henrietta Brocklehurst, FPS,** are retiring on April 20. They have been in business since 1934 when they opened their first pharmacy in Willerby Road, Hull, followed some months later by another in Wold Road nearby. Altogether they have five pharmacies in the Hull area.

Mr John Button, MPS, 242 Sleaford Road, Boston, has taken office as chairman of Fenland Round Table. He moved to Boston from London ten years ago when he joined the family pharmacists' business of Grimble & Kent Ltd, 15 High Street. His wife, Jo, is chairman-elect of Boston Ladies' Circle.

Mr Tony Ward is the first employee of Riker Laboratories Ltd at Loughborough to receive an award in a new suggestion scheme. He has been paid £100 for a suggested alteration in the packaging of pharmaceutical tablets which is expected to save the company about £1,000 a year.

Dr John Foster, a candidate in the forthcoming Pharmaceutical Society's Council election, lives in London and not Nottingham as stated recently (*C&D*, April 8, p523).

News in brief

☐ Among the cases to be heard at the next meeting of the Statutory Committee of the Pharmaceutical Society, May 3 to 5, is that of a member of the Society who has been convicted of forgery and obtaining property by deception.

☐ The index of retail prices for all items for March 14, 1978 was 191.8 (January 15, 1974=100). This represents an increase of 0.6 per cent on February 1978 (190.6) and of 9.1 per cent on March 1977 (175.8).

☐ The Cancer Research Campaign has made a grant of £5,567 for 1977/8 to Dr J. A. Hickman, department of pharmacy, University of Aston. The money will enable Dr Hickman to undertake research into the mechanisms whereby some anti-cancer drugs work.

☐ The Price Commission are to investigate the price increases proposed by CPC (United Kingdom) Ltd. The price increase, average 7.34 per cent would cover maize starch, glucose syrups, starch-derived products such as starch blends and roll-dried starches, and glucose-derived products such as brewing sugars, caramel and dextrose.

☐ Jimmy Saville launched the Buckinghamshire DUMP campaign which is running until April 30. Local pharmaceutical industry, retail pharmacists and local authorities are contributing towards the cost of newspaper adertisements publicising the campaign. Four bottles of cyanide, one of strychnine and 110,288 tablets and capsules were among the first three days' collection in the northern half of the county.

☐ Three Public Notices are being issued to explain the changes in VAT introduced in the Budget. Notice No 731A (increased turnover value limits for registration) and Notice 734 (review of VAT) are being sent to all businesses registered for VAT. Notice 733 (partial exemption) is being sent to registered traders with exempt outputs and to accountants. The Notices are also available from Customs and Excise VAT offices.

TOPICAL REFLECTIONS

by Xrayser

Advertising

I take issue with Mr Blyth, editor of the *Pharmaceutical Journal*, because it seems to me he is barking up the wrong tree on the "chemist" title. Let me explain by taking part of the report of his address at the IPMI conference (*C&D* last week, p589) in which he says: "Much of the trouble over restricted titles and advertising arose from the efforts of wholesalers to improve the effectiveness of the smaller pharmacy . . . and the fortunes of the wholesaler as well". From this he proceeds: "If . . . as a result of wholesaler pressure the advertising of professional services were allowed, any use of restricted titles would be [to use his cliché], the thin end of a very large wedge". This is an incorrect assumption, I believe.

Let us examine the statement regarding wholesalers. I see nothing wrong at all in the efforts made by wholesalers to ensure the effectiveness, or indeed the survival of smaller pharmacies, for this is precisely what most of us are trying to do anyway. All proper help is acceptable and it is unfitting to imply that wholesalers are only doing it to "make their fortunes". Any businessman worth his salt takes what steps he can to see that his customers stay profitably in business. Such actions can only be described as enlightened self-interest—the basis of any commercial operation.

He then says: "It would be ironic, if as a result of wholesaler pressure, the advertising of professional services were allowed." What is he talking about? No one to my knowledge, anywhere or any time has suggested that we propose using the word "chemist" to advertise our professional work. The whole point at issue is to be able to use the word which indicates our corporate identity as opposed to other groups of traders—grocers, supermarkets, etc.—in our commercial activities. I am as fierce as any when faced by the pharmacist who tries in advertising to suggest he is a better pharmacist or gives a better service. Perhaps Mr Blyth will show us the wholesaler who is going to attempt to press us to advertise professional services? . . His big "if" is in fact a non sequitur, a non-runner, for I think it would be a simple matter to define the areas in which the word might be used, and as simple to define the areas in which its use would be unacceptable.

Clothier

What a relief to see Clothier accepted, but correctly as an interim measure only. Some of our country members will sleep easier for that. I take it as read that the use of the word "interim" indicates a hardening of resolve about our professional targets. I would like to see this as the starting point of a serious dialogue between ourselves and the BMA regarding our common aims, and ways in which we might mutually cooperate so that neither of us had reason to view the other as potential or real competitors.

Spring

I felt particularly good on Monday. The sun was shining, the stocktakers had been and gone without problems, the VAT return did itself, and the restocking lists had all been completed on Saturday. By Tuesday it was clear that although the sun still shone my good spirits were not universal. By Wednesday I could hear the barely suppressed groans of the staff seeping into the dispensary. "What's wrong?," I inquired benevolently. "Just look!," came back the answer. Deliveries were flowing in hourly. Did I really order all that post-Budget, post-stocktaking, post end-of-financial-year stock? Offers on skin cream, hand cream, shampoos, toilet rolls, sunglasses, sun tans, . . . where are we going to put them all? It snowed on Thursday . . .

for nappy rash

Our new Thovaline retail unit will replace the present 40g size, providing a more attractive and convenient unit to the customer. The new Thovaline 50g unit is presented in convenient packs of one dozen. Make sure you specify the new 50g size when ordering from your Wholesaler.

Ilon Laboratories (Hamilton) Ltd.
Lorne Street, Hamilton, Scotland.

Over 61 million people every month will see the

NATIONAL ADVERTISING CAMPAIGN in 1978

for

NICOBREVIN

ANTI-SMOKING CAPSULES

Stock up now and Reap the Benefit

In 1978 NICOBREVIN will be advertised regularly in 20 National Sunday, Daily, Weekly and Monthly publications. Many people want to give up smoking, and NICOBREVIN makes it easier for them—complete course—does not affect sense of taste. With this new advertising campaign, you must benefit. Make sure your stocks are there, don't miss a single sale. Ask your wholesaler NOW. Showcards and display packs available, and NICOBREVIN gives you a good profit margin.

Ask your wholesaler for supplies, or write to sole distributors

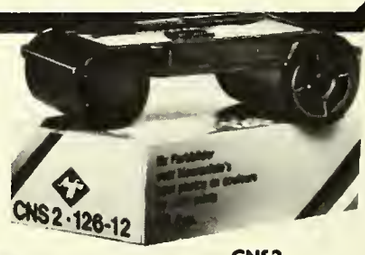
MILLER, 13 GOLDEN SQUARE, LONDON W.1. Tel: 01 734 4246/9

Agfa

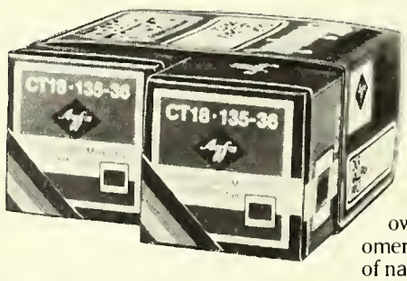
All these products being advertised in the National or Photographic Press.

Get ready for summer. Stock up with Agfa now.

Super 8 cinefilm comes in Valupaks of four films. So you can sell more film, more easily and at your own prices. And there's a great new promotion to attract your customers. With every Valupak they get the chance to save £5 on each of four home movies—The 1978 Cup Final, Trooping the Colour and a couple of cartoons!



CNS2
Sure to be a best-seller with the new low prices combined with Agfa's consistent quality colour prints.



Big value CT18 and CT21
in two-film Valupaks at your own special price. Your customers get the well-known benefits of natural colour, rapid processing and plastic frames plus an interesting special offer. Namely, £2 OFF Agfa's "Colour in Focus" Book—over 100 pages of expert advice from two leading photographers.

The popular Agfamatic 2008 and Autostar Pocket
The Agfamatic 2008 with Philips Top Flash has quickly established itself as one of the most popular in the range of Agfa pockets. And the Autostar Pocket, the least expensive in the range, offers real value-for-money in low price cameras.

For basic trade prices contact your local Vestric branch.

Vestric

COUNTERPOINTS

Leryss shampoos with herbs

Leryss shampoos, introduced to the UK from Holland, have been formulated to take scalp health as well as hair cleanliness into account. They are made from "natural" ingredients and contain many of the herbs which are said to have been used as aids to hair beauty for centuries past. There are five variants available; water mint and great figwort for normal hair, wild angelica and quaker bonnet for dry hair, carline thistle and tower mustard for greasy hair, bitterherb and mugwort for dandruff problems and golden maidenhair and safflower oil for fine hair and split ends (100ml £1.15, 200ml £1.95). In addition to the herbal extracts each variant is enriched with nectar of clover. The shampoos will be available for sale from May 1. *Distributors: Eylure Ltd, Grange Industrial Estate, Llanfrechfa Way, Cwmbran, Gwent.*

Bath products from Arden

The Body Basics bath regime from Elizabeth Arden is said to "turn any bathroom into a very special spa". It is a collection of six bath products, researched and designed by the company based on the three principles of caring for the complexion-cleanse, tone and moisturise. The products are: a bath and shower gelee (200ml £5.95), moisture rich creme bath (200ml £5.95), moisture rich soap (100g £2.25), gentle body toner (200ml £4.95) to be used after a bath to tone and stimulate the skin, body moisturiser (200ml £5.50) and a natural spray deodorant (100ml £3.95). Available for sale from the beginning of May. *Elizabeth Arden, 76 Grosvenor Street, London W1A 2AE.*

Bergasol displays

Bergasol have introduced a range of display material this year to support their television and women's magazine advertising campaign which starts in May. Chemists who order Bergasol direct will receive a bright yellow, orange and brown vacuum formed display complete with headboard and leaflet dispenser. The unit continues the Bergasol theme "the only sun tan oil to accelerate natural tanning" and features the Bergasol couple logo. It has been designed to help the consumer select the product most suitable to their skin type by dividing the range into groups with product usage descriptions.

Marketing manager, Ron Hanlon believes that the use of this new display will be an integral part of increased sales. He says, "Much of Bergasol's success has undoubtedly come from our pharmaceutical style packaging. However, getting a tan should be associated with fun and glamour and we have incorporated this element in our creative treatment, both in our advertising and our point of sale material".

Parcels consisting of 30 items are available at wholesalers. These parcels feature a card display which is a scaled down replica of the main unit, together with leaflets. Individual leaflet holders, till stickers, window bills and Bergasol life size cut out girls are also available. *Chefaro Proprietaries Ltd, Crown House, Morden, Surrey.*

Wella Blo Dry push

A new campaign for Wella Blo Dry lotions in the *Daily Mail* lasts till mid-June and will use full colour as well as black and white advertisements. Wella are also taking double page spreads in full colour in *Cosmopolitan* and *19* until the end of July.

By making the consumer more aware of the benefits of using a blow dry lotion, Wella say they feel confident they will considerably expand a section of the market in which they are already market leaders. *Wella Great Britain Ltd, Wella Road, Basingstoke, Hants.*

Paddi cloth offer

From May 8 until June 16, Robinsons of Chesterfield will be offering the trade Paddi Pad 10s with a consumer "give away" of an all-purpose cloth on packs. This promotion is being supported with merchandising material. New Paddi dump bins will be available with header boards and shelf talkers. In addition, the special Paddi Pad packs will be brightly bound with a promotional tape announcing "Free all purpose cloth". *Robinsons of Chesterfield, Wheat Bridge, Chesterfield.*

Tabac Original and Gillette GII offer

Over two thirds of the male population still prefer wet shaving to using an electric razor and the market for ordinary razors is moving steadily from the more traditional razor to the two blade system, according to Eylure Ltd. Further, they say that the Gillette GII is the brand leader in the field of bonded razors, currently advertised on television, and so they have decided to offer Tabac Original consumers the Gillette GII and two cartridges free with the 90ml aftershave.

The offer is presented in duo-pack cartons. It has been geared towards Father's Day, "as an attractive present at a price which both adults and children can afford." (£2.45) The offer will be featured in the national Press and newspapers. *Eylure Ltd, Grange Industrial Estate, Llanfrechfa Way, Cwmbran.*

Foster Grant and Tony Curtis

The current television campaig· for Foster Grant's 1978 collection of sunglasses features the actor, Tony Curtis, in his first commercial. The company believes that "style, success, sex-appeal and a very positive attraction, as typified by Tony Curtis, all identify with the Foster Grant reputation and image". The commercial was shot in Hollywood and will be shown nationally throughout the summer at peak viewing times. *Wilkinson Sword Ltd, Sword House, High Wycombe, Bucks HP13 6EJ.*

COUNTERPOINTS

Bronnley introduce honey & beeswax flower soaps

Honey, combined with beeswax form the basis of a new range of "natural" soaps introuced by Bronnley. Honey & beeswax soaps (£0.60) come in a range of four fragrances with "just a faint overtone of honey". Each is based on a flower from which bees take the essential nectar from which pure honey is made. They are: honey & heather; honey & clover; honey & wild rose; and honey & lime blossom. The new tablets feature a honeycomb pattern, are coloured to match the flower fragrance they represent and will be available for sale throughout the UK from June 1. *H. Bronnley & Co Ltd, 10 Conduit Street, London W1R 0BR.*

New perfumery house

Shannon Cosmetics Ltd, newcomers in the UK market, say that they were formed to "offer value for money products in the fastest growing sector of the enormous cosmetic market"—perfumes. They add that they are creating ten new lines this year and have a large expansion programme planned for 1979. Already launched are Anytime and Musk (£1.25) and an after shave called M1 (£1.30). An up-market after shave, FM, is expected to be made available later in the year, together with gift sets of the existing fragrances and a 2oz spray gift for the Christmas period. *Shannon Cosmetics Ltd, 23 Union Road, Croydon.*

SMA Gold Cap liquid

Gold Cap SMA concentrated liquid has been launched by Wyeth Laboratories. The liquid, in 370ml cans (£0.26½ trade), is to be diluted with equal quantities of pre-boiled water. Each tin will provide a whole day's feeds for most young babies. The company says that their liquid product can help overcome the inaccuracies that occur in many powdered milks. In the USA, where the liquid form has been on the market for some years, Gold Cap SMA liquid sells four times as much as the powder form. *Wyeth Laboratories, Huntercombe Lane South, Taplow, Maidenhead, Berks.*

Garotta card

A new header card for the Garotta carton is being distributed to retailers to assist sales and aid the display of Garotta compost maker. Its introduction is timed to coincide with an advertising campaign which will run until June in the national Press. The company will also be advertising their bird and animal repellent, Scoot, in the consumer gardening Press from now until the end of May. *Garotta Products Ltd, Station Mills, Luton, Beds.*

Charlie goes to the head

Revlon have introduced three shampoo formulations to their Charlie range. One is "extra creamy rich" (£0.95) for dry hair, one has "extra body and control" (£0.95) for normal hair and "extra freshness" (£0.95) for oily hair. *Revlon, 86 Brook Street, London W1.*

DDD brand name

In an endeavour to clarify the brand name of DDD preparations, Deep cleansing tonic will be called Deep Down cleansing tonic (£0.63) and Deep cleansing tonic facial tissues will be Deep Down cleansing tonic facial tissues (10, £0.31). *Dendron Ltd, 94 Rickmansworth Road, Watford, Herts.*

Vestric offers

Current offers from Vestric Ltd include: Alka Seltzer; All Fresh; Ambre Solaire pre-pack unit; Ayds; Babettes nappies and pants; Bergasol pre-pack unit; Bic razor; Colgate; Cream Silk; Crest; Dettol antiseptic 500ml; Duo Tan pre-pack unit; Germolene foot spray; Glucodin; Grecian 2000 and Lady Grecian 2000; Imperial Leather; Johnson's baby shampoo and baby dry liners; Joy Rides; Kleenex Boutique; Kotex Soft'n Sure; Libresse; Lil-lets; MD4; Nivea; Norsca soap, foam bath, antiperspirant roll on, and antiperspirant spray; Odor Eaters; Paddi Pads; Rennie; Wernets powder and Super Wernets. *Vestric Ltd, Chapel Street, Runcorn, Cheshire WA7 5AP.*

Eversun concentrate on water-resistant formula

Eversun is concentrating its publicity effort on Eversun water resistant. This is said to be the first water resistant suntan preparation to come on to the European market. It is a water-in-oil emulsion, developed to remain on the skin, however wet it gets. It is available in two sun protection strengths, 5 for Mediterranean climates and for a very fair or sensitive skin and 2 for a normal skin. Like the rest of the Eversun range, it contains guanin.

Alastair Duncan, cosmetic executive at Roche states, "Whereas the original Eversun range had tended to appeal mostly to people with a sensitive skin, the new water resistant preparations will have wide acceptance across all skin-types, ages and socio-economic groups and will position Eversun as a mass market product. The advertising copy appeals to 'water babies of any age' and the bold headline 'sea proof sunbathing' strongly communicates this message." The message will be broadcast over commercial radio and the schedule includes Capital, LBC, Piccadilly (Manchester) BRMB (Birmingham) and Beacon (Wolverhampton). Magazine advertising concentrates on the May-July period in *Woman, Womans Weekly, Woman & Home, Family Circle, Cosmopolitan, Mother* and *Readers Digest. Roche Products Ltd, Broadwater Road, Welwyn Garden City, Herts.*

Body Cool prices

Prices for Body Cool, by De Witt International Ltd, are incorrect in the May Price List and the April 1 and following Supplements. The correct prices —12, £4.03 trade; £0.49 each retail— will appear in the April 29 Supplement.

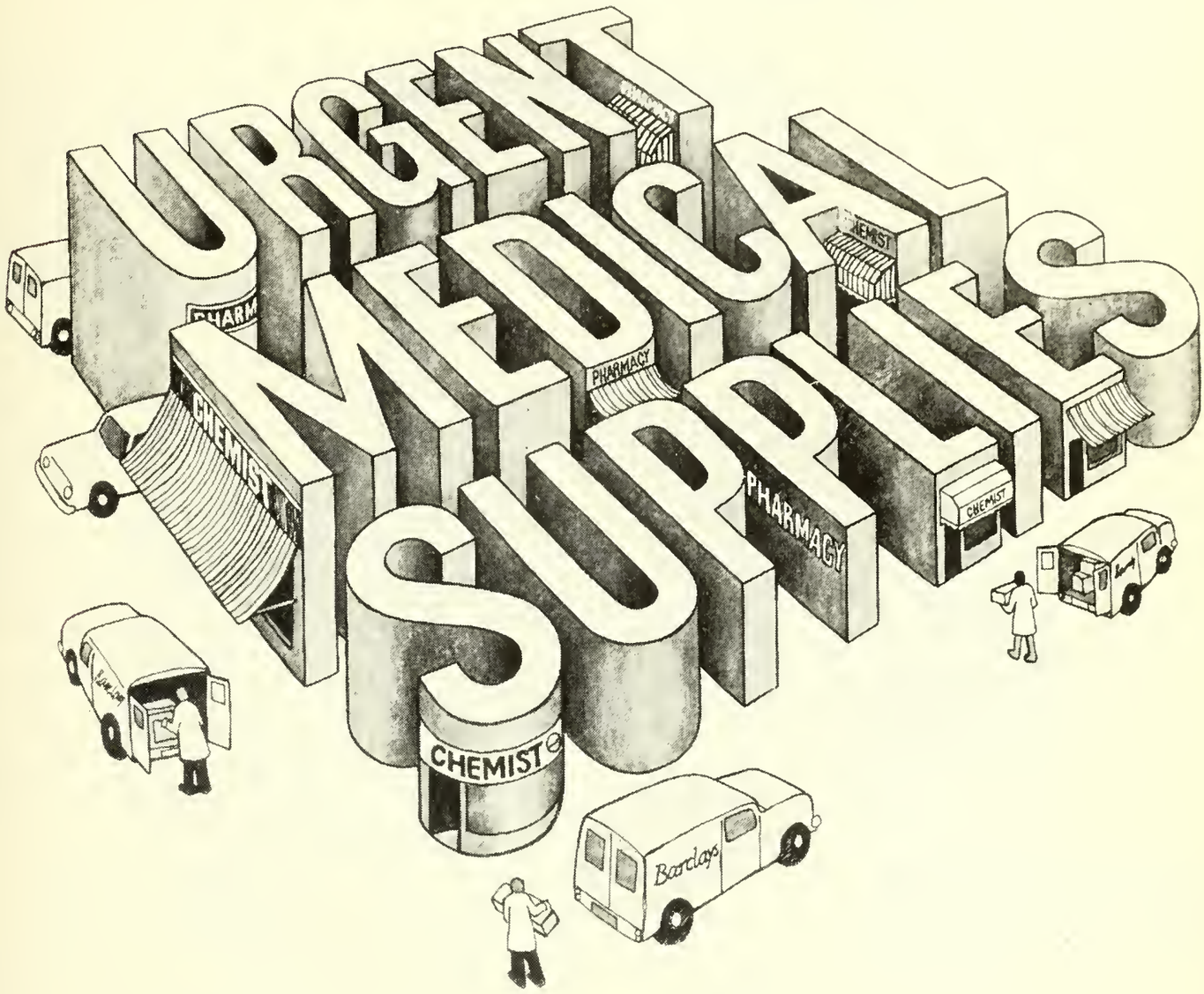
□Because of an error the last page number (284) in the *C&D* February 25 issue is not consecutive with the first (295) in the March 4 issue.

ON TV NEXT WEEK

Ln—London; M—Midlands; Lc—Lancashire; Y—Yorkshire; Sc—Scotland; WW—Wales and West; So—South; NE—North-east; A—Anglia; U—Ulster; We—Westward; B—Border; G—Grampian; E—Eireann; CI—Channel Island.

Anadin: All except U, E
Aviance: All except WW, A, U, We, E, CI
Foster Grant: All areas
Gillette GII: All except E
Nivea: All areas
Odor-eaters: All areas
Polaroid sunglasses and camera 1000: All areas
Right Guard: All except E
Seven Seas cherry: Y, NE
Signal: All areas

Barclays service makes all the difference



A large stock of medical products are just hours away from your pharmacy, when you use the Barclays service. Your telephone order will be dealt with quickly by experienced staff and delivered by one of the 230 vehicles in our national transport fleet.
Why not ring your next order to the local Barclays branch – it will make all the difference.

Barnsley 0226 6055	Cardiff 0222 564841	Grimsby 0472 58111	Northampton 0604 31615	Stoke on Trent 0782 659451
Belfast 0231 65155	Coventry 0203 462832	Horsforth, Leeds 0532 589311	Nottingham 0602 862581	Swansea 0792 34831
Birmingham 021 472 7171	Croydon 01 688 5116	Leicester 0533 881354	Portchester, Hants 07018 81124	Wednesbury 021 556 4471
Blackpool 0253 23961	Darlington 0325 61491	Leslie, Fife 0592 743255	Port Dinorwic, Gwynedd 0248 670401	York 0904 27451
Bolton 0204 73441	Eckington, Sheffield 024 683 2175	Liverpool 051 922 2732	Queensferry, Clwyd 0244 812887	
Brighton 0273 62251	Edmonton, London N18 01 803 4801	Newport, Gwent 0633 73391	South Shields 0632 552473	

Barclays the national company with the local service

COUNTERPOINTS

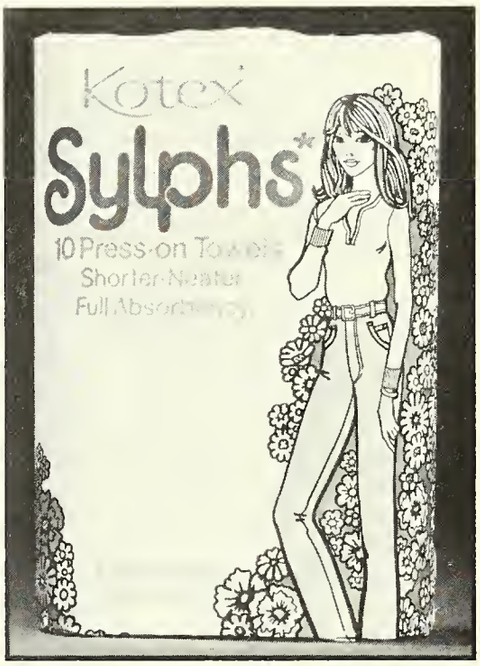
Poison for warfarin-resistant rats

A new form of rat poison, Bar Bait, has been introduced by Salsbury Laboratories. Its active ingredient is prolin, a combination of warfarin and sulphaquinoxaline. The addition of sulphaquinoxaline reduces warfarin resistance.

The bait consists of a grain coated with tallow, beeswax and confectioners' sugar mixed with prolin, and comes as 36 x 1lb bars (1lb, £1.20). It will not crumble or blow away and damp or wet conditions do not make it soggy, says the company. Death usually occurs within three days but the rodents do not become bait shy and continue to eat the cereal bar. If cats or dogs eat Bar Bait they vomit before taking a toxic dose. The company hopes to make it available through the usual wholesalers soon. *Salsbury Laboratories, Cremyll Road, Reading, Berks.*

Sorex distributor

Sorex (London) Ltd say that as from May 1 Pharmagen Ltd, Chapel Street, Runcorn, Ches, have been appointed sole distributors of Sorexa CR1 mouse bait, Neosorexa and Sorexa plus rat bait, to the chemist trade. *Sorex (London) Ltd, Fulton House, Empire Way, Wembley, Middlesex.*



Kotex Sylphs, Kimberly-Clark's, smaller-sized press-on towels are being re-launched from May 1 in an up-dated pack, and a new 20s size. The re-launch is to be supported by over £100,000 full-colour advertising in the teenage Press, plus a separate campaign to mothers of menstruating girls in leading women's magazines. Launch packs will be flashed with a money off next purchase offer. *Kimberly-Clark Ltd, Larkfield, Maidstone.*

PRESCRIPTION SPECIALITIES

New indication for cinnarizine

Janssen Pharmaceutical Ltd have introduced Stugeron forte which contains cinnarizine 75mg. Already available as Stugeron (15mg cinnarizine) as a labyrinthine sedative for the management of vertigo and Menieres' disease, higher doses of this drug have been found to protect arterial smooth muscle from the effects of angiotensin, bradykinin, serotonin and noradrenaline.

STUGERON forte capsules

Manufacturer Janssen Pharmaceutical Ltd, Janssen House, Chapel Street, Marlow, Bucks SL7 1ET
Description Hard capsule with orange cap and yellow body containing cinnarizine 75 mg
Indications Long term management of peripheral arterial disease, including intermittent claudication, rest pain, muscular cramps and vasospastic disorders, such as Raynaud's disease
Dosage Initially one capsule three times daily. Maintenance, one capsule two or three times daily. Maximum benefit will not be seen until after several weeks of continuous treatment
Precautions To be used with care in hypotensive patients and in first trimester of pregnancy. May cause drowsiness
Side effects Occasionally skin reactions and fatigue
Storage Shelf life of five years.
Packs Bubble packs 100 capsules (£12.30 trade)
Supply restrictions Pharmacy only.
Issued April 1978

SYNTARIS nasal spray

Manufacturer Syntex Pharmaceuticals Ltd, St Ives House, St Ives Road, Maidenhead, Berks
Description Buffered, clear, colourless slightly viscous aqueous solution in a glass bottle fitted with a metered pump device which delivers flunisolide 25mcg per actuation via a nozzle inserted into the nostril
Indications Prophylaxis and treatment of perennial and seasonal allergic rhinitis
Contraindications Untreated fungal, bacterial or viral nasal infections, hypersensitivity
Dosage For intra-nasal administration only. *Adults*—two sprays into each nostril twice daily. If symptoms are severe, two sprays into each nostril three times daily. *Children 10 years and over*—one spray into each nostril three times daily. Maintenance should be smallest dose necessary to control symptoms. Maximum six sprays in each nostril for adults, three sprays for children. Effect is not immediate; full benefit requires regular usage. Not recommended for children under 10
Precautions Glucocorticoids may mask some signs of infection and new infections may appear during their use. Not recommended in first three months of pregnancy. If used in second or third trimester, expected benefits should be weighed against potential hazards. Care when transfering patients from systemic steroid therapy if their adrenal function is impaired. Potential for adrenal suppression must be considered with prolonged excessive use
Side effects Mild transient nasal burning and stinging, epistaxis, runny and stuffy nose, sore throat, hoarseness
Packs Two 12ml bottles (about 25 days treatment) and pump device (£3.47 trade)
Supply restrictions Prescription only
Issued April 1978

Exchange of EC potassium drugs

Following the decision to discontinue Hydrosaluric-K and Salupres from April 28, Marck Sharp & Dohme are arranging for the return of stocks in exchange for Moduretic to the same value. *Merck Sharp & Dohme Ltd, Hoddesdon, Herts.*

Frusemide-Kloref calendar pack

A 28-day treatment pack of frusemide Kloref is to be issued by Cox Continental Ltd. Each calendar pack (£2.30 trade) contains a blister strip of 28 frusemide 40mg tablets and a carton containing 28 Kloref sachets. The pack is designed for patients who require one tablet and one sachet daily. *Cox-Continental Ltd, 93 Lewes Road, Brighton, Sussex.*

Piriton engraved

Piriton 4mg tablets in 50s packs are now engraved "Piriton AH" around the perimeter of one side and the number "4" in the centre. Packs of 500 tablets issued after May 1 will also contain these marked tablets. Similarly Dequadin lozenges are now engraved "Dequadin AH". *Allen & Hanburys Ltd, Bethnal Green, London E2 6LA.*

C&D SUPPLEMENT
DIABETES

DIABETES

INSULINS TODAY

by Pat Turmer, BPharm, PhD, MPS, formerly an advisory pharmacist, Wellcome Foundation Ltd

Insulin is a naturally occurring hormone that can be extracted from the pancreas glands of many animals. It consists of two chains of amino acids designated A and B chains. In most species the A chain contains 21 amino acids and the B chain 28 to 30. The two chains are connected by two disulphide linkages one at the 7 position and another at the 20 (A chain) and 19 (B chain) position.

Neither the A chain, which is acidic, nor the B chain, which is basic, have any activity on their own, no specific parts of the molecule have been found to be the active sites but removal of the eight terminal amino acids of the B chain eliminates all detectable activity. Insulins obtained from many different species have been found to conform to the same basic structure, the only differences being in the sequence of amino acids. It has also been found that, with very few exceptions, the insulins from various species are virtually identical in their biological activity.

The precursor of insulin in the pancreas is proinsulin (see below). Although the insulins of various species are very similar, the proinsulins are not. The sequence of the connecting chain in beef proinsulin differs from that of pig proinsulin by eight amino acid residues and contains three fewer amino acids. Small amounts of proinsulin may be detected in the blood; it is virtually without insulin-like activity.

Extraction

Insulin may be extracted from the pancreas by a relatively simple process. It is essential that the glands are frozen immediately after removal from the animal. To extract the insulin, the frozen tissue is minced and acidified alcohol added; filtration removes the unwanted tissue and fat and then the extract is concentrated by vacuum distillation. The remainder of the fat is removed by cooling and filtration and sodium chloride added to the filtrate to precipitate crude insulin. This insulin is dissolved in hydrochloric acid and after decoloration, alkali is added to precipitate the insulin at its isoelectric point. The insulin is again dissolved in acid and a solution of zinc chloride in buffer added to precipitate crystalline insulin.

The material prepared by such an extraction will contain insulin plus small amounts of other pancreatic materials. The main group of these other materials is insulin related and includes monodesamido insulin, arginine insulin and insulin ethyl ester. These have insulin-like activity and are of a similar molecular weight to insulin. Also present may be proinsulin and insulin dimers, materials of a higher molecular weight than insulin but still insulin related. Finally there may be high molecular weight pancreatic material unrelated to insulin.

Further purification

The trend since the initial manufacture of insulin preparations in 1923 has been towards an increasingly pure preparation as shown by the changes from the 1st International Standard of 8 units of insulin per mg in 1925 to 24 units of insulin per mg in the 4th International Standard of 1958. However, the methods described above utilising crystallisation do not remove all extraneous material. Recently the introduction of gel filtration (molecular sieving) methods and anion exchange chromatography to insulin manufacture have enabled further increases in purification to be achieved.

Molecular sieving (gel filtration) is a method of separating material of different molecular weights. Application of this process to insulin manufacture has made possible the removal of those components of the insulin extract with molecular weights significantly different from that of insulin. In practice this means the high molecular weight pancreatic material and proinsulin. Anion exchange chromatography will allow separation of those materials of similar molecular weight to insulin not removed by gel filtration.

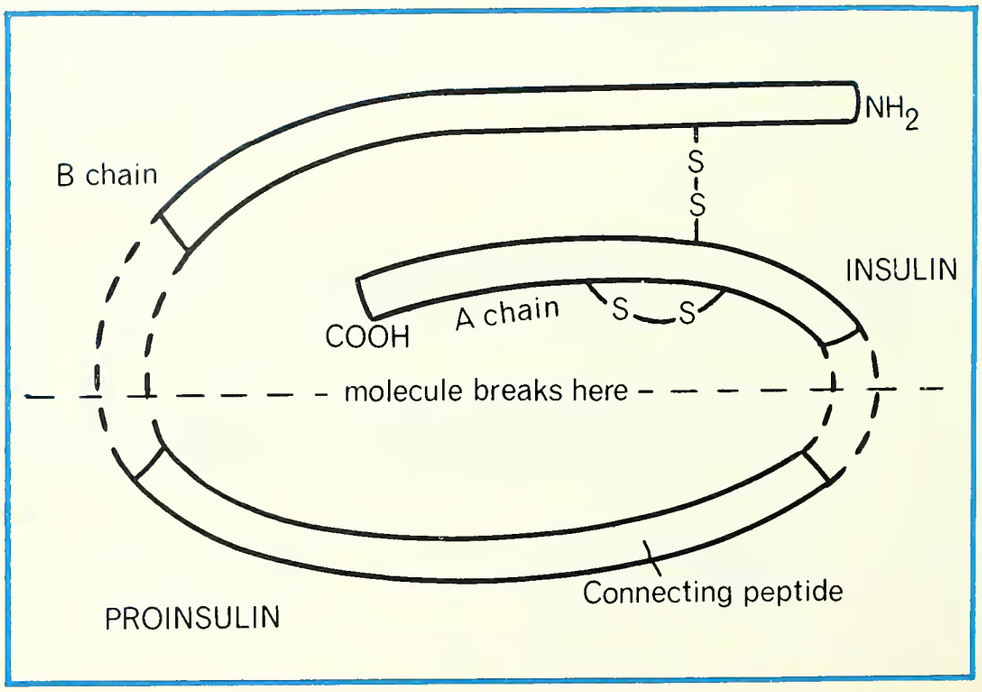
The insulin obtained from these procedures may be described as proinsulin freed (PIF), rarely immunogenic (RI) or monocomponent (MC) insulin depending on the process used and the nature of the end product.

Preparations

From the insulin obtained from pancreatic extracts by the methods outlined above, the various insulin preparations are made. There are nine different ones described in the current British Pharmacopoeia, shown with their various trade names and other names in table 1. When discussing the various types of insulin currently available, classification may be made according to several properties. These include the time course of action; the species source, the method of purification and the pH.

On the basis of time course of action, the insulins may be divided conveniently into five main groups. Starting with the unmodified insulins whose onset of action is very rapid and whose duration of action is short, through the semilente type insulins to the isophane and lente group, then the biphasic insulins and finally the very slow onset, very long acting protamine zinc and ultralente-type insulins (table 2).

The action of insulin may be prolonged by one of two methods. Insulin may be complexed with a protein from



which it is slowly released. Such insulins are protamine zinc and isophane (insulin complexed with protamine), and globin zinc insulin (complexed with globin).

Rather than adding protein to the insulin, the length of action may be modified by variation in the particle size. This principle is employed in the insulin zinc suspensions, with semilente, an amorphous form of insulin, being the most rapidly acting example, and ultralente, a larger particle crystalline form, a very long-acting example. The latter is more prolonged in its action due to the larger particles taking much longer to pass into solution. A mixture of these two types in the ratio three parts amorphous to seven parts crystalline gives the medium acting lente types of preparation.

The main sources of insulin are ox and pig pancreas. In the treatment of a patient, it is generally considered advisable always to use insulin of the same animal source and all insulin preparations are labelled to show their origin. Table 3 classifies the insulin preparations by species source.

When the insulins are classified according to their method of purification, it can be seen that most of the highly purified preparations are of porcine origin (table 4).

Although the earliest preparations of insulin required to be acidic in order to ensure stability, the more recent preparations are of a neutral pH. Currently the only acidic preparations are insulin injection (soluble insulin) and globin zinc insulin which both have a pH about 3.0.

Mixing insulins

Consideration of species source, pH and added protein becomes important when making mixtures of insulins. Many diabetics regularly use two types of insulin and would prefer to give these as one injection from the same syringe. However, all insulins are not compatible with one another.

There are some basic guidelines for mixing insulins. Firstly, insulins of different pH should not as a rule be mixed; secondly, the insulin zinc suspensions may be mixed with each other but not with other types of insulin; and finally, because protamine zinc insulin contains an excess of protamine, admixture with a soluble or neutral soluble insulin is not advisable since the added insulin may complex with the excess protamine. Having said this, it is known that many diabetics do use various mixtures of insulin, and change in method of administration should only be carried out under medical supervision.

Transfer from one to another

Because individual requirements and reactions vary considerably, it is usually recommended that any change in insulin type should also take place under medical supervision. Change in type of insulin may include change in preparation from a long acting to medium or short acting or vice versa, change in species of insulin or change in degree of purity of insulin. Any of these changes may necessitate a change in dosage or timing of doses. Thus medical supervision and advice to the diabetic to be alert for symptoms of under or over dosage are necessary.

Storage

How should insulin be stored? The Pharmacopoeia recommends storage between 2° and 10°C which usually means in a refrigerator but insulin should not be frozen. The highly purified insulins have further specifications on storage; these are that they should be stored between 2° and 8° C and protected from sunlight.

The tables take account of the changes in Novoinsulins from May *(see p625)*.

Table 1. Types of insulin

Generic name	Trade name or other names
Insulin injection	Soluble insulin
Neutral insulin injection	Nuso* Actrapid* MC Leo Neutral*
Biphasic insulin	Rapitard* MC Mixtard*
Isophane insulin	Neutral Protamine Hagedorn (NPH) Leo Retard*
Globin zinc insulin	Globin
Protamine zinc insulin	PZI
Insulin zinc suspension (amorphous)	Semilente Semitard* MC
Insulin zinc suspension	Lente Lentard MC* Monotard* MC
Insulin zinc suspension (crystalline)	Ultralente Ultratard MC*

*Trade name

Table 2. Approximate time course of action

Type	Timing of action
Insulin injection Neutral insulin	Very rapid onset Short duration of action
Insulin zinc suspension (amorphous)	Fairly rapid onset about 1 hour. Action lasts 12-14 hours with peak effect 3-8 hours.
Biphasic insulin	Onset about 1 hour. Action about 24 hours. Peak effect 6-12 hours.
Isophane insulin Globin insulin Insulin zinc suspension	Onset about 2 hours. Action may last up to 24 hours. Peak effect 6-12 hours.
Protamine zinc insulin Insulin zinc suspension (crystalline)	Very delayed onset, about 5-7 hours. Action may last up to 30 hours. Peak effect 10-20 hours.

Table 3. Species source

Beef	Pig
Insulin injection	
Nuso	Actrapid MC Leo neutral
Semilente	Semilente Semitard MC
Globin Isophane Lente	Mixtard Leo Retard Monotard MC
PZI Ultralente Ultratard MC	
Beef and Pig	
Lentard MC Rapitard MC	

Table 4. Method of purification

Crystallisation	MC	Rarely immunogenic
Insulin injection Nuso	Actrapid MC	Leo neutral
Semilente	Semitard MC	
Globin Isophane Lente	Rapitard MC Lentard MC Monotard MC	Mixtard Leo retard
PZI Ultralente	Ultratard MC	

Wellcome
INSULINS SERVICE

The Wellcome Insulins Service is designed to complement the wide range of high quality insulins available from Britain's largest insulin supplier. It is a service to all involved in the supply and use of insulin, including booklets and cards for patients, note pads, charts, help and advice for you.

Also remember, wholesalers throughout the country stock Wellcome*. Insulins—so supplies are always easily available.

*TRADE MARK

Wellcome

Wellcome Medical Division
The Wellcome Foundation Ltd.
Berkhamsted, Herts

Specify Wellcome Insulins

A RANGE UPDATED

Novo Laboratories Ltd are introducing three new MC insulins of mixed species or bovine origin on May 1. In this article the company explains how the monocomponent insulins were developed and advises pharmacists about dispensing the new range.

In the earliest days of insulin therapy, only short acting or unmodified insulin preparations were available and diabetic patients were treated with several injections each day. These preparations were manufactured from an indiscriminate mixture of pork and beef pancreas and, by today's standards, were very impure.

Uncomfortable local reactions at injection sites were clearly due to impurities and these problems were minimised by the use of repeatedly recrystallised insulin. It was assumed that the process of recrystallisation had eliminated the majority of the impurities and it was not until the discovery that almost all patients treated with these "purer" insulins had circulating insulin-binding antibodies that research interest in insulin purity was rekindled. Research into the structures of various insulins had shown differences between human, porcine and bovine insulin and it was assumed that animal insulins were antigenic in man for this reason. This was partially confirmed by the fact that porcine insulin, differing from human insulin by only one amino acid group, was less antigenic than bovine insulin which differs by three groups.

Impurities still present

This observation led to a number of manufacturers introducing insulins exclusively of porcine origin. Even these recrystallised porcine insulins induced insulin-binding antibodies and it became clear that the antigenicity of insulin preparations was not only related to the species of origin but also to the continuing presence of impurities.

In the late 1960s a quiet revolution took place with the advent of new techniques for the chromatographic analysis of protein substances and the development of highly sensitive and specific radio-immunoassays. Using these techniques it was possible to demonstrate the presence, in conventional recrystallised insulin, of significant amounts of strongly antigenic impurities. The chromatographic techniques which had revealed the presence of these impurities in conventional insulin provided the key to their elimination on a commercial scale. This led to the introduction of a number of new insulins purified by a number of chromatographic techniques.

The impurities may be fractionated according to molecular size by gel filtration chromatography, into high molecular-weight (molecular-weight over 15,000) a-component, the b-component, containing proinsulin, the intermediates, the dimer, etc, and the c-component which comprises, besides insulin, desamino-insulins, arginine-insulins and insulin ethyl esters. The term "highly purified" insulins had been used to describe insulins prepared by chromatographic techniques, which has led to considerable confusion. The insulin preparations produced by gel chromatography will contain in addition to insulin a considerable amount of other pancreatic polypeptides especially proinsulin. In the monocomponent insulin however these impurities have been reduced to insignificant levels, eg proinsulin less than 1ppm, achieved by Novo using in addition to the gel filtration an anion-exchange chromatographic step.

The description "highly purified" should therefore be restricted to the monocomponent insulin range as even minor amounts of impurities carry with them an immunogenic potential and it is therefore extremely important to establish a precise definition of "highly purified" insulin.

Insulin purity is clearly only one consideration in the selection of insulin therapy. A flexible product range is necessary if the primary goal of "good control" of diabetes is to be achieved.

The new insulins being introduced on May 1 are Rapitard MC, Lentard MC and Ultratard MC and will replace the existing proinsulin-freed insulins of the same names. The complete range of Novo insulins will then be: Actrapid MC (Neutral soluble insulin BP), Semitard MC (Insulin zinc suspension—amorphous BP), Rapitard MC (Biphasic insulin BP), Monotard MC (Insulin zinc suspension BP), Lentard MC (Insulin zinc suspension BP), Ultratard MC (Insulin zinc suspension—crystalline BP), (For species source see table on p623).

Dispensing

From the dispensing point of view, the changes mean that the patient who was already stabilised on Rapitard, Lentard or Ultratard should now receive the MC equivalent. These patients will not require any modification of their therapy on transfer. Diabetic patients are, however, rightly concerned to maintain the continuity of their treatment and may require reassurance when they receive their first pack of a new insulin. Patients who are stabilised on the existing MC insulins (Actrapid MC, Semitard MC and Monotard MC) will be completely unaffected by the changes. The new insulins will be available from wholesalers in late April.

In conclusion, treatment with MC insulins leads to a minimal or undetectable antibody response in diabetic patients and this minimal antigenicity probably accounts for the proven value of these insulins in patients with insulin allergy, lipoatrophy and insulin resistance as well as the improved control and reduced dosage levels reported by many investigators.

One author recently pointed out that if insulin were a new product, being marketed for the first time this year, there is little doubt that production of insulin free from contamination by hormonal impurities would be an obligatory requirement. This requirement is fulfilled by the complete range of Novo insulins which provide a unique combination of purity and flexibility.

European names

Recent legislation has required Weddel Pharmaceuticals Ltd, Wrexham Industrial Estate, Wrexham, Clwyd, to change their insulin labelling to European Pharmacopoeia nomenclature. The company says this move has caused some confusion and explains that isophane protamine insulin Ph Eur is European nomenclature for isophane insulin injection BP (NPH). Overall, their insulin preparations Ph Eur and BP formulations are identical.

Pancreas glands being minced at Wellcome Foundation Ltd

Why are diabetics keeping mum about Jackson's of Devon's Pastilles free from added sugar?

TASTE ONE. **Mummmmm.**

Jackson's of Devon's Pastilles free from added sugar have a minimal carbohydrate content and a low calorie value.

They come in three kinds:

Devon Fruit Flavour *(an assortment of five flavours)*
Devon Mint and Blackcurrant.

Approved by the British Diabetic Association.

Pastilles free from added sugar.

Ernest Jackson & Co. Ltd., Crediton, Devon EX17 3AP.

Choice taste for diabetics

Only half the carbohydrate of conventional cake.
Flavour and freshness vacuum sealed in a can

RITE-DIET

WELFARE FOODS (STOCKPORT) LIMITED,
Poynton, Stockport, Cheshire SK12 1LA. Tel: Poynton 7

Halas

HALAS LABORATORIES LIMITED

offer a range of

GALENICALS including specials for Diabetics in 2 litre dispensing and 100 ml counter packs.

For information and price list please contact our Sales Office.

To discuss Contract Manufacture, please contact Dr. H. A. Fisher.

HALAS LABORATORIES LTD
THORP ARCH TRADING ESTATE
WETHERBY, YORKSHIRE
Tel.: Boston Spa (0937) 842695

Mr **EXPORT DATA**

OFFERS YOU

comprehensive information on the complex business of exporting to every world market. including countries, cities, languages, currencies, banks, embassies, commercial representatives, airports, seaports, airline cargo booking offices, container and unit load services, documentation and licensing details, import regulations, financing exports, trade marks, weights, measures, abbreviations, voltages, postal charges, money orders, cables, telephones, climate, holidays, EEC PREFERENCE regulations, ATA, BOTB, CAN, ECGB, THE, VAT information, plus monthly up-dating service,

700 pages 210 x 143 mm £15.00

Benn Publications Ltd.,
25 New Street Square, London EC4A 3JA

DIABETES

Balance is the name of the game

A retail pharmacist who recently found he was diabetic gives a personal view on living with the disease.

My life-style changed radically about a year ago when I became one of the many hundred thousand diabetics in Great Britain. Quite suddenly, I began drinking vast quantities of water, about four or five gallons a day without quenching an insatiable thirst, my vision began to "zoom" in and out of focus, and I became even more tired than usual to the extent of dropping off to sleep as soon as I sat down.

It took about a week of this before I realised the implications and tested my urine. A positive result of over 2 per cent sugars sent me running alarmed to my GP, with a not very helpful result. Fifteen seconds to describe my symptoms, and she was reaching for MIMS; she told me abruptly I was diabetic, prescribed some tablets and told me to make an appointment with the diabetic clinic at the local hospital. Within 45 seconds I was out of the surgery, clutching a script for chlorpropamide with a sense of bewilderment and anxiety.

Not so anxious

A year later, I find myself not so anxious and bewildered, with a reasonable balance between the constant preoccupation of keeping to a strict diet and remembering to take my tablets yet not becoming hypochrondiac about it all. True, I have had to restrict alcoholic intake, apart from a rare Scotch and in hot weather a special diabetic beer. I have had to restrict carbohydrates to the equivalent of 100g a day, but I am now a reasonable weight instead of the previous 16 stone and at least as active as previously. The local diabetic clinic was very helpful, and so was the hospital dietician who spent a lot of time with me, but in the end it meant learning a rather different way of life.

I believe that membership of the British Diabetic Association is essential for any newly diagnosed diabetic. The BDA is much more helpful in dealing with these new and apparently complicated problems than any consultant or clinic could possibly have time to be. Their publication *Balance* is really excellent and most aptly named, as "balance" is the name of the game now. My working day has not altered—like that of most of my colleagues it is far too long—but now I do stop at regular intervals to eat as I no longer dare miss a meal. If I do go past the time for a break, I soon know about it. Tingling lips, profuse perspiration and, worst of all, a faintness and cessation of mental activity all spell "danger" and mean hypoglycaemia. If it gets as far as this rapid glucose or sugar consumption is essential, but normally I stop in the early stages for a biscuit and cup of coffee. Of course I keep lumps of sugar always in my pocket, but more important I keep a good supply of emergency rations within reach in my car. Incredible as it may seem, it has taken me over four hours to get home in thick fog or snow after a day's work.

Eating out is a little difficult. It usually means a steak and salad, missing the sweet and having cheese which is none too hard to bear. I can still sail my yacht, as long as I eat sufficient for the

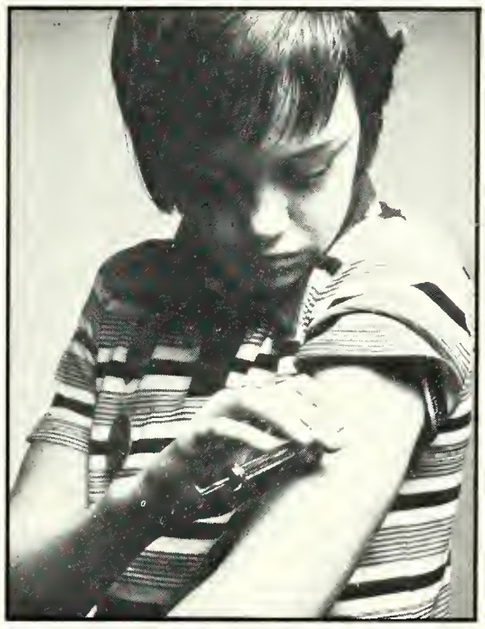


Photo courtesy British Diabetic Association

expected demand on my energy. I can still ski quite moderately and walk in the hills on holiday.

A diabetic diet need not be dull even though it is restricted; a good wife with one of the BDA recipe books can work wonders in quite a gourmet fashion but the addition of small quantities of the diabetic jams, marmalades, sorbitol, fructose and chocolate does add a little sweetness to food. I abhor saccharine as it happens, so avoid this completely. In fact tea and coffee have a delicacy of flavour now that I had missed all my life!

There are excellent sugarless jams and foods available, all of which seem rather expensive but although they are by no means essential, they do add variety to the diet. It is difficult sometimes to explain the relatively high cost in terms of limited production runs and demand using expensive ingredients, but most customers seem glad to be able to buy these products. It seems a pity that the sources are fairly restricted—at least the supermarkets do not appear to have taken them up but often when away from home I find that the only pharmacy stocking any variety of diabetic foods is Boots. Or perhaps only they display them? Maybe there is not much profit in such items with a fairly small demand but they are a valuable source of goodwill and they do bring in regular customers with prescriptions.

I have not yet experimented very much in my pharmacy with health education literature, apart from lending my own recipe books and some of the informative pamphlets from the BDA to suitable customers. Even passing on my copies of *Balance* seems to be appreciated, and I think if I do eventually make a feature of offering such books and pamphlets for sale I would prefer the BDA series.

I am now in my second year as a diabetic, and I am still learning what my new metabolism and body will achieve. I still sometimes forget to take my glibenclamide at breakfast, in spite of putting them out the night before on the breakfast tray. Of course I keep an emergency supply in my car, on my boat and on my person when on holiday so I can retrieve the situation when I do forget.

Sympathy towards customers

However, I welcome the provision in the new legislation permitting emergency supplies of such drugs and I am sure my colleagues will respond sympathetically to requests from diabetics who have forgotten their tablets. I view my diabetic customers now with a little more sympathy but I am sure they do not wish to be fussed over—after all we lead a nearly normal active life. I try to strike a balance of reasonable efficiency with modest sympathy. Far more important is to keep adequate stocks of the particular insulin, oral hypoglycaemics, Clinitest tablets, needles, etc, that regular diabetics use. Disposable syringes and needles are useful to sell too, particularly at holiday time. Advice is usually well received, but I think it should be asked for even if in not so many words—there are a few occasions when an elderly and confused patient can be put right with such advice.

One last word. Diabetics do need to look after their feet most carefully, which is another professional aid in the supply and advice of chiropody aids; but a good liaison with a local chiropodist can be of immense help in getting the elderly diabetic to seek treatment.

New eye shadows from Mary Quant

The elegance of Quant, the quality of Polaroid. Put the two together and you create a range of sunglasses with a style all their own. Five designs by Mary in twelve variations, all feature Polaroid's famous 7-layer lens and Mary's personal touch, her 'daisy.' A chic black velvet carrying case comes

free with every pair and to reflect the fashion mood of this unique collection, there's a dazzling showcard and sleek silver-finished counter merchandiser complete with mirror. For more details of this and a special introductory offer, ring your local Polaroid distributor or Anna Crosti at St. Albans 59191.

The Mary Quant Sunglass Collection from

Polaroid

DIABETES

TRENDS IN RESEARCH

by Drs R. W. Simpson and D. A. Lang, Department of Regius Professor of Medicine, Radcliffe Infirmary, Oxford

Glucose tolerance (the ability to handle a glucose load), like blood pressure, is a quality in which the abnormal are at one end of a continuum or spectrum. As with hypertension, an arbitrary decision must be made to divide the population into diabetics and non-diabetics. Therefore, diabetes mellitus may be defined as a syndrome in which there is glucose intolerance producing glycosuria and/or symptoms.

Aetiology

Aetiologically, diabetes mellitus may be divided into primary (idiopathic) or secondary forms. Secondary diabetes occurs in relation to some other disease or may be precipitated by certain drugs. An important cause of secondary diabetes is Cushing's syndrome which is now more commonly an iatrogenic disease following the use of corticosteroids. Other secondary causes are acromegaly, phaeochromocytoma, chronic pancreatitis, cystic fibrosis and glucagonoma.

In idiopathic diabetes, representing the vast majority of cases, no precipitating or associated condition is identifiable. Idiopathic diabetes may be subdivided into maturity-onset (insulin-independent, ketosis resistant) and juvenile-onset (insulin-dependent, ketosis prone) types. Maturity-onset type diabetics, who form the bulk of any diabetic clinic, tend to be middle aged, whereas the juvenile-onset type diabetics are younger.

In recent years there has been an immense amount of work on the aetiology of idiopathic diabetes mellitus, and there have been three main areas of interest—heredity, environment and autoimmunity.

Forty years ago it was observed that diabetes tends to aggregate in families. However, the exact mode of inheritance is not clear, although different groups have postulated a range of genetic mechanisms from a recessive gene with partial penetrance to many genes acting together. Whilst the mechanism is still disputed, it is clear that only 10 per cent of children with diabetic parents are affected by the disease and 50 per cent of identical twins with one sibling affected become concordant for the disease.

Studies of the major histocompatibility system in man have provided some insight into the genetic mechanism. The human leucocyte antigens (HLA) consist of four major loci on chromosome 6 and are designated A, B, C & D. There are many different alleles for each locus and an individual inherits one allele from each parent. The alleles of interest are HLA B8, BW15 and B18 and possession of each of these results in a two-fold increase in the risk of developing juvenile-type diabetes. No strong association has been found between the HLA system and maturity-onset type of diabetes. More recent work has identified another gene closely linked to but distinct from the HLA system. The importance of this newly recognised gene is that some of these alleles are associated with a three-fold risk of developing juvenile-onset type diabetes. Some workers interpret the genetic data as suggesting the existence of a "diabetes susceptibility gene", yet to be specifically identified but closely associated with the HLA system.

The situation is less clear for the majority of maturity-onset type diabetics. It is interesting that despite the lack of a clear association with the HLA type, maturity-onset type diabetic twins are usually concordant for the disease. This suggests that an unidentified genetic factor, probably separate from the HLA system, may be operating. There is a relatively uncommon group of young, insulin independent patients (MODY—maturity onset diabetes of the young) in whom there is evidence for an autosomal dominant mechanism of inheritance present.

Environmental factors

There is experimental and epidemiological evidence to suggest that viral infections may play a role in the pathogenesis of juvenile-onset type of diabetes. The mumps and Coxsackie B4 viruses both cause beta cell damage in experimental animals. Epidemiological studies in Britain have shown a seasonal variation in the incidence of newly diagnosed diabetes in children. As with upper respiratory tract infections, the greatest number of cases occur in autumn and winter. Furthermore, there are peaks in incidence of the onset of diabetes at five years and 11 years of age, the stages when children first go to school and change schools respectively. Although these findings provide only circumstantial evidence, they certainly raise the possibility of a viral factor in the development of diabetes in children.

The other major environmental factor is diet. Many epidemiological studies have shown an association between calorie excess and more recently a reduction in fibre in the diet, and the high incidence of maturity-onset type diabetes in the western world. Studies showing an increase in the incidence of diabetes amongst South African blacks as they move from a rural to a suburban style of living clearly point to an environmental factor such as diet.

Autoimmunity

Diabetes is associated with the organ specific autoimmune diseases, such as Graves' disease of the thyroid, idiopathic myxoedema, pernicious anaemia affecting the gastric mucosa and Addison's disease affecting the adrenal cortex. Recently islet cell antibodies (ICA) have been recognised and are present in up to 80 per cent of newly diagnosed juvenile-onset type patients. However, this antibody only persists in 20 per cent of such patients and a significant number of these people have a family history of thyro-gastric autoimmune disease. As with the other autoimmune disorders it is not known whether ICA is a marker or instrument of beta cell change. However, the epidemiological links between diabetes and the generally accepted autoimmune diseases strongly imply some immunological role in the pathogenesis of diabetes mellitus.

Clearly the aetiology of idiopathic diabetes mellitus is complex but as with many other diseases all three groups of factors may interact. The extent of this interaction will probably be found to differ from patient to patient.

Management

For the past fifty years the management of diabetes has primarily been directed at correcting the relative or absolute deficiency of insulin found in all forms of the disease. There is no treatment for the underlying pancreatic lesion. Recently an increased understanding of the pathophysiology of diabetes has resulted in a more rational approach to treatment.

Previous research has established that insulin plays an essential role in stimulating the uptake and utilisation of ingested glucose and amino acids. However, recent studies have highlighted its inhibitory actions on the production of glucose from the liver and protein and lipid catabolism in the periphery. In the fasting state the liver is the only source of glucose available to maintain the blood sugar level. In turn, blood glucose has an important controlling influence on insulin secretion from the beta cell.

From these and other observations, it has been suggested that the basal (fasting) plasma insulin level is regulated by a simple negative feedback loop involving beta cells and the liver, where glucose promotes the secretion of insulin, which in turn inhibits the production of glucose. There is now evidence that a minimum level of insulin activity in the blood is required for normal cell function and to

inhibit excessive catabolism. This minimum level prevents basal hyperglycaemia, weight loss and ketoacidosis.

This simple negative feedback loop also suggests an attractive explanation of the pathophysiology of diabetes. A raised fasting blood sugar level may not be the inevitable consequence of insulin deficiency but the stimulus required to drive a deficient pancreas to maintain a normal level of circulating insulin. This hypothesis shifts the emphasis in the management of diabetes to, initially, restoring the basal insulin activity to normal.

Treatment

Maturity-onset diabetes—In mild (maturity-onset type) diabetes normal basal insulin activity may be achieved by a variety of means. The first step is calorie restriction and weight reduction (if overweight) as this increases the tissues' response (or sensitivity) to insulin. Traditionally these patients have been prescribed low carbohydrate diets (thus high in fat and protein) with the total daily calorie intake determined by the patient's obesity and consequent need to lose weight. However, there is now evidence accumulating to show that a high carbohydrate diet (low in fat and protein) is more beneficial for these patients. Firstly it appears that the responsiveness of the pancreas to a meal is improved by the increased carbohydrate intake. Secondly and more interestingly has been the realisation that an increased intake of complex carbohydrates (dietary fibre) can result in a substantial improvement in control.

All these recent developments have resulted in immense uncertainty in diabetic dietetics and much work is now required to identify the most appropriate foods for maturity-onset type diabetics.

In more severe diabetics diet alone is not sufficient to obtain normal basal glucose levels and oral agents are required. The most important group of oral antidiabetic agents are the sulphonylureas—chlorpropamide, tolbutamide, glibenclamide, glipizide, tolazamide—with a range of durations of action. These drugs act by priming the pancreas to release more insulin. In practice the long acting sulphonylureas, eg chlorpropamide, are the most convenient preparations to use.

The other main group of oral drugs, formerly widely used, are the biguanides—phenformin, metformin and buformin—which act on peripheral tissues and increase glucose uptake. However, the biguanides, and particularly phenformin, have fallen into disfavour in recent years following the recognition of lactic acidosis (frequently fatal) as a side effect. Phenformin has been implicated more frequently than the other preparations and now has no role in the treatment of diabetes. Metformin does not seem to carry the same high risk but is now contraindicated in patients with renal and hepatic disease.

In the early 1970s all oral agents came under a cloud following the publication of the findings of the University Group Diabetes Program on the long term use of phenformin and tolbutamide in a selected group of diabetics. They found an increased incidence of cardiovascular deaths among patients on these agents. Fortunately these observations have not proved to be universal and few diabetologists in this country avoid using sulphonylureas or other biguanides because of this study.

Finally, a long acting insulin (ultralente or protamine zinc insulin) may be used to supplement basal insulin activity in maturity-onset type diabetics.

In mild diabetics it has recently been shown that by using a regimen directed towards producing normal basal insulin activity (and thus basal normoglycaemia), the residual pancreatic function in these patients is sufficient to maintain satisfactory post-prandial blood glucose levels.

Juvenile-onset diabetes—In the more severe, insulin requiring diabetic, the mainstay of treatment has been for many years the use of long or intermediate acting insulins with a supplement of soluble insulin.

A more logical approach to the treatment of these patients is one based on the concepts described above. Treatment regimens should be designed to achieve separately both basal normoglycaemia and post-prandial glucose control. Basal glucose control may again be achieved by a once daily injection of a long acting insulin (ultralente). Twice daily injections (pre-breakfast, pre-dinner) of an intermediate acting insulin (isophane) would achieve a similar result. As these patients have more severely impaired beta cell function, twice daily supplements of a short acting insulin (soluble) before meals are required to obtain satisfactory post-prandial glucose levels.

With the regimens described above, which are designed to achieve basal normoglycaemia, the level of control is very simply assessed by measuring the basal (fasting) blood glucose levels. For the more severe (insulin-requiring) diabetic this is supplemented by measurement of the pre-prandial levels. Some centres still monitor urine glucose levels, but the wide variation in the renal threshold to glucose in the population makes this an unreliable index.

There are a number of drugs which should either be avoided or used with circumspect in diabetes.

Recent epidemiological studies have shown that diabetic women on oral contraceptives may have an increased risk from myocardial infarction. For this reason many diabetologists now consider that "the pill" should not be prescribed in diabetic women.

Beta blocking agents can mask hypoglycaemic symptoms in insulin-dependent diabetics. As these are useful drugs it is difficult to avoid prescribing them in all diabetics but clearly great care is required. Finally, there are a number of drugs (corticosteroids, diuretics) which impair glucose tolerance and obviously this needs to be taken into account when they are prescribed for diabetics.

DIABETES

AIDS TO LIFELONG DIAGNOSIS

by Colin J. Mitchell, systems marketing manager, Ames Co

There are half a million known diabetics in Britain. Probably another half million people are unknowingly affected. The case for early diagnosis and closer control of the disease is without question and yet diabetes is unique in that patients are required to understand their own illness, to perform tests on their own body fluids and to modify treatment or seek advice accordingly. Regular surveillance of their progress must be lifelong.

Effective control of diabetes, be it juvenile or maturity onset, is important if cardiovascular, retinal and renal complications are to be, at best, avoided or at worst prevented from progressing further.

It was not until 1947, when the first major advance in this field—Clinitest reagent tablets—was introduced by Ames Co, that patients were allowed the freedom to monitor and control their own diabetes. The simple testing of their own urine for sugar, based on easily recognisable colour changes helped both patients and their doctors to a closer understanding of the disorder.

Sensitivity

Clinitest tablets are based on the Benedict test in which reducing substances in the urine convert cupric to cuprous sulphate. The degree of reduction determines the colour of the resultant solution. As glucose is the major reducing sugar in diabetic urine, Clinitest may be used either for monitoring or diagnosis. It will, however, also give a positive result to lactose, fructose, galactose and pentose. The sensitivity of the tablets is such that neither salicylates nor penicillin will give a positive result and vitamin C, nalidixic acid, cephalosporin and probenecid will only interfere if present in large amounts.

It is important that the reaction is watched carefully as sugar in concentration greater than 2g per cent may appear as a fleeting range "pass-through" phenomenon which reverts to greenish brown on settling.

Clinitest tablets are caustic and generate considerable heat on contact with water. They are hygroscopic and so the cap must be replaced tightly and as quickly as possible after removing a tablet. Should a tablet be swallowed by accident, large volumes of citrus fruit juice or milk with a tablespoon of vegetable oil should be given as soon as possible; do not induce vomiting. Contact with the skin or eyes should be treated by copious irrigation with tepid water, for fifteen minutes if eyes are affected.

Whilst Clinitest is appropriate for all reducing sugars, glucose is most important for diabetics, and glucose specific tests are available such as Clinistix reagent strips. Their reaction depends on the sequential action of two enzymes. The first, glucose oxidase, helps to convert glucose into gluconic acid and hydrogen peroxide. The second, peroxidase, oxidises the chromogen system.

The reagent area does not give false positive results with other reducing agents such as salicylates and nalidixic acid. High urinary ascorbic acid, a not unlikely situation with today's vogue for massive dose vitamin C, may inhibit the reaction.

Clinitest is a semi-quantitative test and is suitable for insulin-dependent diabetics, while Clinistix should only be used for the control of mild diabetes controlled by diet or hypoglycaemics.

For the insulin-dependent diabetic, the importance of detecting ketones in urine cannot be overstressed and the patient may be asked to test with Acetest reagent tablets or Ketostix reagent strips. Acetest is based upon the pH sensitive reaction of acetoacetic acid or acetone with nitroprusside to form a purple complex. Diabetic patients taking L-dopa anti-Parkinson drugs should be advised that false positive results may occur with Acetest. Ketostix reagent strips may be specified instead of Acetest. They are similarly based upon the nitroprusside reaction and are subject to the same limitations.

Ames Co, in co-operation with the BDA, produce a free booklet "Rupert and his friends" aimed to teach diabetic children how to understand and manage their condition. Children are encouraged to regard "Sid Syringe" and "Test tube Fred" as their friends, not as objects of fear.

The most recent developments in diagnostic reagents available to the diabetic managing his condition at home are Diastix reagent strips and Keto-diastix reagent strips. Diastix is used by diabetics not considered at risk from ketonuria, while Keto-diastix is designed for those who need close monitoring, namely the insulin-dependent diabetic who may suffer ketonuric attacks. Diastix is glucose specific, the potassium iodide substrate for the peroxidase phase of the reaction permitting semi-quantitative estimations, as in the case of Clinitest. It will not react to nalidixic acid nor salicylates and is not noticeably inhibited by the presence of ascorbic acid. The ketone reaction of Keto-diastix is based upon the same reaction as Acetest tablets.

Large amounts of ketones (80 mg/dl) may decrease colour development. However, it is unlikely that the presence of ketones simultaneously with glucose in the urine is sufficient to produce false negative glucose results. At glucose levels of 1 per cent or greater, the colour of the glucose test area may appear somewhat mottled. The darkest colour should be used in interpreting results with the colour chart. It is essential that users read the colours exactly at the stated time, 30 seconds and 15 seconds for glucose and ketone test areas respectively.

Advice to users

The pharmacist has a key role to play in guiding the diabetic user of such diagnostic reagents by ensuring that several important points are heavily emphasised when supplies are bought.

1. Read the instructions carefully, ask the pharmacist if not understood.

2. All diabetic diagnostic tests depend on a colour change in a chemical reaction and should be matched against the appropriate Ames colour chart *every* time; using "judgment based on years of experience" is not enough. Read the colours at the exact elapse time.

3. Store in a cool, dry, dark cupboard away from children. Always replace cap immediately after removing a reagent tablet or strip.

4. Always check that reagent tablet or strip is in perfect condition. Do not use if discoloured; always check expiry date.

5. Always use fresh urine.

Further information on Ames diabetic diagnostic reagents is available from Ames Co, Stoke Court, Stoke Poges, Slough, Berks SL2 4LY.

Research offers hope for control without drugs

In theory, if some diabetics were to eat their total daily food intake as 12 small meals, say, instead of the usual three larger ones, they could achieve adequate control of their blood glucose levels without resorting to drugs.

However, stopping for a meal every hour or so is out of the question for most people and trials are now in progress using guar gum which appears to have a similar effect in reducing the amount of glucose absorbed into the bloodstream over a particular period.

Research into this "slow release meal" effect was pioneered by Dr David Jenkins, MRC Gastroenterology Unit, Central Middlesex Hospital, London and is now being carried out at various centres in the UK. He and his co-workers have found that non-insulin requiring diabetics who took 16g guar gum and 10g pectin with carbohydrate meals showed a much lower rise in blood glucose levels after the meals than when they ate carbohydrates alone. They also had significantly lower insulin levels between 30 and 120 minutes after the meal.

In another trial, published in *The Lancet* last October, seven diabetics who took 25g guar gum daily for five to seven days showed a fall in mean urinary glucose excretion of up to 54 per cent.

Guar gum is a galactomannan, the storage polysaccharide—indigestible to man—of the cluster bean, an Indian legume. Its action may be linked in some way to the theory that lack of dietary fibre is one factor responsible for precipitating diabetes in susceptible people. One hypothesis is that frequent large rises of blood sugar after meals may, over many years, render the pancreas incapable of controlling blood sugar levels and that high fibre diets tend to "dilute" the amount of glucose reaching the blood. Rural Africans, whose staple carbohydrate in many cases is stone-ground maize flour, show flatter curves after glucose tolerance tests than do Europeans who eat more refined foods.

But according to Dr Tony Leeds, Queen Elizabeth College, London, the action of guar gum may be related to its viscosity which may slow gastric emptying and small intestinal absorption rates, thereby slowing the delivery of glucose to the bloodstream. Reducing the viscosity reduces the effect but it is not known whether the viscosity slows movement of glucose to the gut's absorptive surface or whether there is some other unidentified substance—a glucose transport inhibitor—present in the gum itself.

However, the more viscous the food the less palatable it becomes, so if viscosity is a key factor, the ideal would be to find a compound which becomes very viscous only after it is eaten.

Long term effects

Work is now being carried out to see whether satisfactory control can be achieved with guar gum in a larger sample of diabetics. Another possible problem, still to be investigated, is that increasing the viscosity of the gut contents could lead to essential nutrients not being absorbed. Vitamin B12, for example, is absorbed by the distal gut and might be carried past this area unabsorbed. Although guar gum is widely used as a food additive in concentrations of between 0.4-0.8 per cent, work has yet to be done into the long term effects of taking larger doses and Dr Leeds believes it will be at least three years before a product appears on the market.

DIABETES

Activity reflects a specialised market

Promotion of diabetic foods reflects the fact that they are designed for a very specialised market.

Most of the advertising takes place in *Balance*, the bimonthly newspaper of the British Diabetic Association, rather than through the mass media. Other promotion tends to concentrate on offering dietary advice.

The following products are regularly advertised in *Balance:*

Centurion brand Devon pastilles (Ernest Jackson & Co Ltd, Crediton, Devon).

Frank Cooper fruit and preserves (CPC (UK) Ltd, Claygate House, Esher Surrey).

Dietade range of desserts, preserves, tinned fruits. A merchandiser stand designed specifically for chemists enables a full selection of products to be offered in a minimum of space (Appleford Ltd, Poyle Close, Colnbrook, Slough, Berks).

Rite-diet (fruit or cherry) canned cakes (Welfare Foods (Stockport) Ltd, 63 London Road South, Poynton, Stockport, Ches).

Skels pastilles, jellies, chewing gum, wafers, chocolate, hard boiled sweets (Cooldrop). (Smith Kendon Ltd, Waterton, Bridgend, Mid Glamorgan).

Vivil sugarless lemon or mint sweets (A. L. Simpkin & Co Ltd, Hunter Road, Sheffield S6 4LD).

Zeese honey substitute, made from sorbitol, fructose and citric acid, and containing 25g carbohydrate per 100g. Zeese golden syrup has the same formulation with a different flavouring (Laboratories for Applied Biology Ltd, 91 Amhurst Park, London N16 5DR).

Recipe leaflets

Some manufacturers offer diet sheets and recipe leaflets for their products, including Howard's sorbitol (Laporte Industries Ltd, Kingsway, Luton, Beds.) and Davis gelatine (Davis Consolidated Industries Ltd, Upper Grove Street, Leamington Spa, Warwicks CV32 5AN). The latter are also advertising Davis gelatine in the 1978 British Diabetic Association Diary.

Although the Energen starch-reduced foods (RHM Foods Ltd, 10 Victoria Road, London NW10 6NU) were originally designed for use by diabetics, most sales are now made to slimmers so promotion is directed mainly towards this market. However, the Energen Foods Bureau supplies a service to registered doctors by means of the Energen diet box which gives diets for specific ailments such as diabetes. But if diabetics themselves write directly to the company asking for diets they are referred to their own doctors.

The Energen crispbread packs have been redesigned and a national and women's Press campaign for the slimming plan and starch reduced foods is running until June.

Weddel Pharmaceuticals Ltd produce a patient card giving details of diabetes and emergency procedure, and space to print dosage information.

Sales staff of Smith Kendon Ltd address local branches of the BDA, with a general talk on diabetes and the diets which can be made available for diabetics.

Value

Manufacturers approached by *C&D* were reluctant—or unable—to give precise up-to-date figures for the size of the diabetic foods market. Estimates vary around the £2½m mark for preserves, chocolate, squash, tinned fruit, and pastilles. Smith Kendon Ltd says the market is only expanding at about 1 per cent per annum, although this rate may increase as a result of earlier diagnosis of diabetes.

Frank Cooper claim a 55 per cent share of what they estimate is a £748,000 market for marmalades and preserves, and 30 per cent of the canned fruit section.

New range aimed at independents

Bayer's new consumer products division is planning to introduce a range of diabetic foods into the UK in July, with distribution mainly through independent pharmacy outlets.

The range is based on Sionon—the sorbitol and saccharin sweetener which was first introduced to diabetics in 1929—and will probably include wafers, chocolate, jams and squashes. The Sionon brand is claimed to be market leader in Germany and the range is already enjoying considerable success in other European countries.

The company expects the new products will offer independent pharmacies an opportunity to compete with Boots' own range. Further details will be available nearer the launch date.

Biopreparations (Great Britain) Ltd, 128 High Street, Edgware, Middlesex HA8 7BT, have recently added vanilla and chocolate flavoured diabetic ice-cream powders to their range (100g, £0.95). The company imports Swiss confectionery under the trade name Stella; the chocolate range includes milk, plain, white nougat and nut, and there are instant desserts, jams, honey and "bon-bons".

On the medical side, Halas Laboratories Ltd, Thorp Arch Trading Estate, Wetherby, Yorks, manufacture diabetic—ie, sorbitol-based—codeine, pholcodine and strong pholcodine linctuses. Smith Kendon Ltd offer Anskels sugarless throat and mouth pastilles and Bronskels for coughs. Sterling Health Products, Surbiton, Surrey, produce a sugar-free variety of Andrews liver salt which contains no carbohydrates.

Special syringe for the blind

Hypoguard Ltd, 49 Grimston Lane, Trimley, Ipswich IP10 0SA, can supply a Click/count syringe for blind or partially-sighted diabetics (1ml, £5.20 plus VAT; 2ml, £4.20 plus VAT). The syringe provides measurement by sound and touch. Also available is a special tray (£2.70 plus VAT) to help diabetics with poor sight to draw up their own insulin. The syringe and needle can be laid in the plastic tray and the needle pushed into the bottles without being bent or blunted.

Source of advice

The British Diabetic Association was founded in 1934 to give practical welfare and social advice to diabetics and to support research into diabetes.

The association offers a range of literature, gifts, equipment and fund-raising material, and advice on a wide variety of topics such as diet, employment, holidays, etc. Membership is not confined to diabetics but is open to anyone supporting its aims. Details from 3 Alfred Place, London WC1E 7EE.

Follow the leader.

- MUM in 1977 was clear brand leader within the total deodorant market (aerosol and roll-on combined).*
- MUM sold 6,000,000 more units than its nearest roll-on competitor.*
- MUM will be spending £500,000 on television during 1978.

*AGB Toiletries and Cosmetic Purchasing Index – January to October 1977.

MUM really works-for you.

Mum' is a registered trade mark Authorised user
Bristol-Myers
Bristol-Myers Co Ltd South Ruislip, Middlesex

RIGHT GUARD TAKES ON THE ROLL-ONS...

...SERIOUSLY!

* Roll-on's are the only growth sector in the anti-perspirant market.
* Right Guard has a completely new roll-on to attack this key female market.
* New on the outside. New Pack. New Name:– Right Guard Zr.
* New on the inside. Unique Zirconium formulation that makes new Right Guard Zr. the most effective anti-perspirant.
* Big, Big Support. Right Guard Zr. has its own separate budget. Over £½m to be spent in first two months on TV, Women's press and promotional, supporting the new roll-on.
* Support the expertise that made Right Guard the brand leader in aerosols.

If you want to know more, call the UK Sales Department, Gillette UK Limited, Great West Road, Isleworth, Middlesex. Telephone: 01-560 1234.

Chemist contractors' case for arbitration

The facts as they are being explained to Members of Parliament

The current dispute between chemist contractors and the Department of Health has a long and complicated history—enough to baffle pharmacists themselves, let alone politicians and others in a position to influence events. On the next two pages, C&D reproduces a summary of the case for arbitration, which is being put to MPs by Mr Bob Worby, chairman of PSNC, during private meetings. C&D suggests that the article would also be ideal background for individual contractors to send to their own MPs when follow-up information has been requested; equally it could accompany the initial letters of contractors who have yet to approach their MP to seek backing for independent arbitration.

1. In a Parliamentary reply to Mr Stephen Ross on April 4, the Secretary of State for Social Services confirmed his refusal to allow his long-standing dispute with pharmacists to be referred to arbitration. He declared that the Pharmaceutical Services Negotiating Committee had not yet told him the grounds upon which his insistence upon still further delay was unacceptable. He added that the correspondence between himself and the PSNC had been placed in the Library of the House for perusal by Members. The chairman of the PSNC wrote again to the Secretary of State on April 10, referring to the Parliamentary reply to Mr Ross, and it is to be hoped that this further letter is also in the Library.

Capital requirement

2. The principle problem of the pharmacist over these past five years has been the total impossibility of funding the ever rising capital requirement of his stockholding out of the inadequate return allowed to him by the NHS on the capital employed in his NHS dispensing. As a result of this cash starvation, stocks have been artificially forced down. In 1975 the Secretary of State took manifestly unfair advantage of the falling stock level to effectively *reduce* the already inadequate level of profit by rebasing it on the artificially lowered stockholding. This made matters still worse and represented the first move in a vicious downward spiral.

	1964	1978
Gross NHS profit	32%	21%
Net „ „	6.4%	2.9%

3. The effect of the spiral is clearly shown by the drop in cash return to pharmacists expressed as a percentage of *turnover*. This measure of profitability—which is the normal one used in the distributive industry—shows a fall in gross profit from over 32 per cent in 1964 to under 21 per cent today, and from 6.4 per cent to 2.9 per cent in net profit. During this 14-year period the percentage return *on capital* allowed to pharmacists by the Government has been increased only once, from 14 per cent to 16 per cent in 1972.

4. Two years ago the chemists' negotiators lodged with the DHSS a report from outside consultant accountants (Cooper Lybrand & Co) which indicated

NHS return on capital 16% pa
Estimated viable return 26% pa

that, to provide a sound viable basis for the NHS contract, the 16 per cent return would need to be increased to 26 per cent. This increase would have been rather higher than increases which had in fact been granted to Government contractors generally between 1972 and 1977 which, had we been allowed to share in them, would have given us 22.4 per cent. The difference is largely accounted for by the much higher rate of inflation (approximately one-and-a-half times the national rate) which has been experienced in the drug market, and by our unusually high turnover-capital ratio (see final sentence of annex to Mr Ennals' letter of February 28, 1978). Allowing for this we would actually arrive at 25.6 per cent in a direct comparison.

Drug inflation

5. The DHSS has forecast drug cost inflation at 21 per cent for 1978, as against Mr Healey's Budget forecast of an overall inflation rate of 7 per cent—so that on the Government's own figures we must expect to have to finance a level of stock inflation of no less than three times the national level over the next 12 months.

6. As already stated in (2), the Secretary of State has taken advantage of the inevitable stockholding consequence of our financial difficulties by rebasing the stockholding period from the notional figure of 11 weeks applied since 1967 to the artificially reduced level of 7 weeks.* To compensate for this the return on capital required would need to be at the *apparantly* extraordinary figure of 34 per cent. Thus does the Minister's arbitrary action in 1975 make our claim appear excessive. To maintain a straight comparison, however, the claim should be considered on the stockholding basis agreed between the parties in 1967, that is, as 26 per cent on the 11 week notional stockholding period which was applied to our contract until 1975.

Funds for expansion

7. The Secretary of State has protested that it is not the job of the "customer" (the DHSS) to provide the capital required for *expansion* of a business—and this is perfectly true. It is, however, absolutely necessary for the profit margin in any business to generate sufficient capital to maintain that business in a steady state—that is, to enable it to maintain the same *amount* of stock from year to year. The Government purchases all NHS dispensed medicines at historic cost price, not current value, so that the only way in which the contractor can maintain the same level of stock is if the profit margin is at least sufficient to meet the inflationary capital requirement. For years now our profit has been insuffi-

Drug costs inflation rate 1½ times national average 1972-77 and predicted by government to be 3 times national average in 1978.

cient, after tax, to do this. In the normal business the profit margin must also generate a dividend of reasonable size so that the investor may have access to a return on his capital and not simply be generating "inflation" capital for some hypothetical descendant to "enjoy" at no real increased value, if and when the march of inflation ceases. It is from this dividend that "real expansion", that is, increase in the amount of stock, could and should be achieved if so desired.

8. In our case, however, there is insufficient profit after tax to even maintain the stock at its opening level—and none whatsoever upon which to live or to expand. For the past two years we have continued to make representations on this matter in respect of our 1975, 1976 and 1977 balance sheets, all of which are still not agreed. But the Secretary of State continues to prevaricate. Having stone-walled for two years (once via his officers and once directly) he now protests that we have not told him the

Concluded on p638

Contractors' case for arbitration

Concluded from p637

grounds on which we reject his argument. We reject it because we regard the argument he has put forward repeatedly during two years of protracted negotiation as being based upon subjective judgment and arbitary rejection of the various submissions and comparisons we have made in connection with the level of our return on capital employed, and its effect upon our net return on turnover.

Wait-and-see attitude

9. The Secretary of State declares that he only seeks to await the effects of a "fairer system of distribution of NHS remuneration" and that he has therefore "not ruled out arbitration in all circumstances". He has already admitted in his letter of March 21 that the question of redistribution is distinct from the profit margin issue—and so he should, as it is our own money which is being redistributed. We cannot afford to wait another two years, which is what it would amount to, before we are finally allowed justice.

10. The "fairer method" of distribution of NHS remuneration" was adopted as a direct result of demands from the chemists national conference in 1976, and takes account of the higher costs of dispensing experienced in the smaller businesses. It was implemented, as from January 1978, by paying less to the larger contractors in order to give more to the small ones. In implementing this scheme the Secretary of State made great play of having "put in" an extra £5m to help in this "redistribution". What he kept silent about was the fact that by the time he has put in the £5m—by the end of 1978—he will, since 1975, have already *taken out* no less than £17m by means of the stockholding reassessment. Thus, in fact, he is "fairly" distributing £12m *less* than we would normally have expected to have been paid by the end of the year.

The government has given £5m to boost contractors' own scheme to help the smaller chemist—but has taken away £17m in the past three years.

11. The Secretary of State says that he expects that the rate of closure of pharmacies (already 4,000 closed down in the last 17 years or so, leaving fewer than 10,000 shops still working) will decrease as a result of redistribution. Undoubtedly they will decrease a little for a short period—but they certainly will not stop. On the contrary, as the effect of the stockholding reduction continues to bite they will inevitably begin to increase once more. In any event, does the Secretary of State consider that the difference between actual death by starvation and an emaciated survival justifies further delay in reassessment of the rations ? Wages paid to staff in pharmacies are already among the lowest in shops throughout the country because the money just hasn't been there to pay more appropriate wages.

12. There is in fact even more in this than simply a straightforward argument about the necessary updating of our return on capital, and the Secretary of State is well aware of it. Dispensing is labour intensive because careful husbandry and the use of discounts and credit dramatically reduces the capital requirement. Under the terms of our contract this has provided enormous savings for the Government, but not a penny has accrued to the chemist. All business economies are automatically offset against the "cost" of materials and overheads and duly deducted from our payments. With ever fewer pharmacies dispensing an annually increasing number of prescriptions, we have achieved remarkable increases in productivity and consequent savings in unit costs. Every penny of this has gone to the Government as well. What trade union would ever be expected to tolerate that ?

When chemists improve productivity, the Government gets the benefit.

13. And yet the Secretary of State still steadfastly resists arbitration on our two year old dispute.

14. What group of "workers" has ever shown such devotion to an unrewarding task in the face of such patent and systematic unfairness ? Our gross profit *cut* by over one third in 18 years. Our net profit *cut* by over a half in the same period, so that it is now less than half the level obtained in distributive industry in general throughout the country.

15. Over 4,000 of our colleagues have already been forced to close their businesses—and yet the Secretary of State has the sheer gall to tell us that ours is not a "risk business" because, taken over the country as a whole, one man's financial disaster is another man's gain. Thus by considering us, within the contract, as a "single nationwide contractor" the Secretary of State maintains there is no "risk" inherent in the NHS contract ! If one of our colleagues goes bankrupt, his nearest colleague gets the business—albeit at great public inconvenience—so as an "organisation" we have lost nothing. ! Try telling a redundant worker that he isn't really on the scrap heap because, taking the country as a whole, the necessary work is still proceeding and he, as a citizen, is a part of that whole !

16. If Members of Parliament do not unite to *demand* that we be allowed the right to arbitration—to the unbiased judgment of uncommitted experts—then surely there can be no morals in present-day Government monopoly. Or does one have to adopt trade union strike tactics and kill, or create suffering for, innocent patients before one can obtain justice in our land today ? How often have we heard Ministers appeal for sweet reason—and beg striking workers and their employers to go to ACAS for arbitration rather than disrupt the nation's services ? Yet when we ask for arbitration to avoid such disruption and heartless activity, we are flatly refused.

17. The continuing fall in the number of chemist shops and the increasing workload in each also tends to force professional standards down—and this can only be to the detriment of the public. Not only are stocks below the necessary level for an adequate and prompt medicinal service to the sick, but individual chemists are having to spend more and more time trying to put through greater and greater numbers of prescriptions—to the detriment of their advisory role to the patient—just in order to survive. More and more dispensing has to be done by unqualified staff under the supervision of an increasingly overworked pharmacist—just to enable the pharmacy to stay in business. All this, in successive Government surveys, shows consequently decreasing costs per prescription and under the terms of our contract promptly results in still further reduction in the cost reimbursement we subsequently receive. It is indeed the most vicious of circles. A few more pounds saved—a few hundred more chemists closed—and a still less adequate service.

4,000 pharmacies have closed in the past 17 years.

18. Please give us your support—by your signature to the Early Day Motion no 16, and by deputation or representations to the Secretary of State, or in any other way open to you. We are asking simply for an unbiased judgment of the merits of our claim—by independent arbitrators. Nothing, surely, could be fairer than that.

---

*Chemists' NHS stockholding first came into calculation in 1967 but was notional, being "back calculated" as the figure required to produce an acceptable cash return on capital employed. This worked out at "11 weeks stock". More recently, however, the DHSS sought to base the figure on actual stocks and a statistical inquiry was held. This coincided with the fall in stock levels and showed that chemists now keep only 7 weeks equivalent. As a result the DHSS withdrew the calculated return on 4 weeks stock —amounting to £17m over the period 1975-78. As explained above, this has only made the financing of stock even more difficult and is resulting in a vicious downward spiral.

From apothecaries to computers

Apothecaries and academics, computers and China were all subjects of the British Society for the History of Pharmacy conference at Loughborough University recently.

Mrs J. Burnby, president, in a paper "The education of a provincial apothecary" dealt with the prolific letter writer, Richard Poultney, born in Loughborough in May 1730. Poultney was a pupil at Loughborough Grammar School before he was apprenticed to a Mr Harris, an apothecary in the town. He was a studious boy with a great love of books and the Linnean Society has a collection of abstracts written by Poultney including one dated March 24, 1741, possibly the first he ever made (at the age of 12).

Mrs Burnby referred to Poultney's special interest in travel books, heraldry and languages. By 1746 he was firmly attached to an over-riding passion for botany which was to last for the rest of his life. Some time after Poultney's apprenticeship started, his interests automatically turned to materia medica and he began to abstract notes from the reference books of the day.

Not always happy

From the varied correspondence, the impression was given that Poultney was not always happy in his apprenticeship, although he never stated exactly where the problem lay. By August, 1752, Poultney was determined to set up for himself in Leicester and by the age of 22 he had his own business.

Poultney had published a number of articles on "Philosophical transactions" and his thoughts turned towards the possibility of election to the Royal Society. William Watson was able to assist and he became a member on December 11, 1762. From John Cheshire and others in the medical world in Edinburgh possibly arose the idea of him obtaining a degree. In the spring of 1764 Poultney, with a friend, Maxwell Garthshore, travelled to Edinburgh, each to try to obtain an MD. They were successful and, after qualifying, Poultney spent a few months in Leicester and then went to London and in April he became an extra licentiate of the College of Physicians. A month later he was established in Blandford Forum, Dorset, where he stayed until his death in 1801.

The next paper "Some Midland apothecaries" by Dr T. D. Whittet and Miss P. M. White was presented by Dr Whittet. Among the apothecaries in Leicestershire was the Cooper family whose gravestones are in Loughborough parish churchyard.

Joseph Clarke, apothecary, is mentioned on the tombstone of a relative. His will, dated November 6, 1717, was proved in 1721. Among the beneficiaries was William Clarke, apothecary, of Grantham, his brother. This was the apothecary with whom Sir Isaac Newton lodged when he was a schoolboy. The authors reported on numerous other wills, administrations and inventories including Thomas Machin (1671), Thomas Lee (1768) and Thomas Aslet (1837). Among the latter's bequest was an encyclopaedia of about 80 volumes to his son.

The authors also listed a number of apothecaries who had held high office in Leicestershire, including William Callis, mayor in 1664, and John Cracroft, chamberlain in 1683, alderman in 1686 and a member of an armigerous family of great antiquity in Lincolnshire.

Henry Pate became a chamberlain in 1681 and an alderman in 1685 and for some years was landlord of the inn known as the Bear and Swan. William Holmes, druggist, was born around 1724 and died on March 28, 1770. Dr Whittet also dealt with the Swinfen family beginning with Edmund Swinfen who had a business in Market Street, Leicester, and was sometimes called druggist and at other times chemist and druggist.

Mr P. Wallis spoke on "Eighteenth century men of medicine—computerised." He described the project for historical bibliography at Newcastle upon Tyne University whereby names in book subscription lists were being collated using the computer. Such lists formed important historical records and it was aimed to use computer methods to analyse and publish historical material about people and the books. The work had been extended by collating the records of apothecaries and mathematicians. Mr Wallis said about 6,000 lists had been dealt with and it was hoped to prepare a "Social index".

Mr G. R. A. Short and Mrs A. Lothian Short at the conference

Dr Whittet pointed out that there were many "blanks" to be tackled, and appealed to those who had access to local records to pass information to the university.

In his account of the early development of pharmaceutical education in Liverpool, Mr B. R. Edwards said it was mainly connected with the Liverpool Chemists Association founded in 1849, using the laboratories and rooms of the Liverpool Royal Institution for the teaching of chemistry and pharmacy. Although it appointed teachers, usually the only financial recompense they received were the small sums as tuition fees paid by students.

Dr Joseph Dickinson, Liverpool Infirmary Medical School, is recorded as having given three early morning botany lectures (at 7 am) during August and September 1849. The lectures probably represented the first systematic attempt to provide pharmaceutical education for Liverpool apprentices and could be regarded as the genesis of the Liverpool school of pharmacy.

In 1882 a second school of pharmacy had its beginnings in Liverpool started by John Septimus Ward, of Ilfracombe. He began by offering private lessons to two or three pupils. However, his reputation soon spread and he began evening classes in 1882.

When Edward Davies—who was then concerned with the Association's educational activities—offered his resignation in 1885, the Council of the Association allowed Ward to add the following words to his advertisements. "The curriculum of this school (the Liverpool school of pharmacy) has been submitted to the council of the Liverpool Chemists' Association and is approved by that body".

In November 1892 Ward died at the age of 36 and was succeeded as principal by a former pupil Robert Charles Cowley. In 1904, the school moved to the Royal Buildings, 18 Colquitt Street. Four years later Cowley accepted the principalship of Brisbane College of Pharmacy and the school was taken over by H. Humphreys Jones who remained principal until 1950. It was the last surviving private school of pharmacy until it was taken over by the Liverpool Education Authority to become part of the Liverpool College of Technology.

Education in Bradford

Dr W. E. Court in his review of pharmaceutical education in Bradford referred to the introduction, in 1887, at the Bradford Technical College, of botany classes arranged to meet the needs of pharmaceutical apprentices. Lectures were given by William West who had a business at 15 Horton Lane, Bradford. He joined the staff of the college and continued to teach and run his business until his death in 1914. Dr Court said West's contribution to pharmacy was worthy of closer study.

In 1920, J. W. Cooper was appointed a part-time lecturer in pharmaceutical

Continued on p643

WHO SOLD WHAT TODAY? HOW MANY AND HOW MUCH?

Casio's electronic efficiency registers all the answers.

Casio registers don't just collect money. They collect all kinds of profitable information too.

At the end of the day you can get a clear print-out showing how many customers each of four assistants served, and the total value of each one's sales. You can see how many items were sold from each of up to eight* departments, and their value.

But that's not all. You can instantly check totals or cash sales, account sales, paid accounts, money paid out, reductions, service charges, refunds and net cash in the drawer. Plus, of course, sales total and a grand audit total. Everything, including the metering of the use of the Master Key, is clearly printed out on your daily report.

Assistants are satisfied customers too!

Casio's logical keyboard layout is so simple to operate, your assistants will find it a pleasure to work with. There's even a warning buzzer if they press a wrong key. And they'll appreciate calculator-like features such as instant multiplication, repeat registering and automatic change calculation.

Customers will probably notice they've less time to wait with a fast, accurate Casio register. They'll find the extra detailed receipt specially useful. And they'll certainly be assured by the illuminated display which can be turned through 270 degrees to provide the best possible view of prices as they are being recorded.

Every Casio is compact, electronically accurate and has all the reliability you have come to expect from Casio products. For complete information on the extensive Casio range, send the coupon today.

CASIO®

TO BE PRECISE

*All details apply to the Casio 30ER (illustrated). There are both simpler and more sophisticated registers in Casio's comprehensive range.

To: Casio Electronics Co. Ltd., 28 Scrutton Street, London EC2A 4TY.

Please send me full details of the Casio range of electronic cash registers.

Name_____

Position_____

Company_____

Address_____

CD

At last! finest quality confectionery from Switzerland

The finest **Diabetic** Swiss chocolate, jams, honey, and delicious ice-cream are now available.

Chocolate: Milk, Plain, White, Hazelnut, Gianduja

Boiled Sweets: Peppermint, Orange & Lemon

Conserves: Honey, Raspberry, Rosehip, Apricot, Strawberry, Cherry

Diabetic Ice-Cream: Chocolate & Vanilla

Telephone us or write now for your order:

Biopreparations (G.B.) Ltd, 128 High Street, Edgware Middx.
01-952 2551/7391

D.I.Y. DRINKS MARKET LEAPS AHEAD...

Now's the time to move into HomeBrew

An estimated one in ten people in Britain are now committed Home Brew enthusiasts, making good quality wine or beer at home. So if your shelves don't carry Homebrew supplies, that's one in ten of your regular customers shopping elsewhere for items they need as regularly as coffee or tea.

Post the coupon for details of Homebrew products.

HB HOMEBREWS

SOUTHAMPTON HOMEBREWS LTD
Brewmaker House, 12 Rochester St, Northam, SOUTHAMPTON, Tel. 36044/5/6

Name _____

Address _____

new improved formula Selsun®

Selsun has always been effective. We have not changed that. But we have improved the bouquet. Now that Selsun is more pleasant to use, more people will be looking for it, so make sure they see it and recommend it with confidence—Doctors do!

a moving experience...

This neat little display unit take up no more room than the stock, yet it really moves Selsun fast. Your Abbott representative has one for you. If you haven't received it yet let us know. We'll get one to you!

Abbott Laboratories Ltd., Queenborough, Kent ME11 5EL. Phone Sheerness 3371

SL.364

OPEN SHOP

Where have all the young men gone?

This week's contribution is from a director of a small multiple pharmacy group in eastern England.

Where have all the young men gone? And the young girls? My company has every so often, like everyone else, to recruit qualified staff and we decided some time ago to "grow our own" as far as we could. Therefore, at least once a year we seek young people from the various institutions of pharmaceutical education and also, hopefully only on an annual basis, locums. We are, I should add, a small organisation, too small as yet to be able to keep a spare whole-time pharmacist. Even when we have tried to do so, we have found that recruitment tends to be annual.

Until about 20 years ago the normal age of recruitment was 16—grammar school leavers—and one approached or was approached by local boys and girls. Nowadays potential pharmacists leave their own home towns (or even countries) and appear on the labour market as 22-year-olds—mobile, and in their own minds at least, adults. There are supposed to be about 1,000 of these annually, about the same as under the old dispensation and yet advertisements —(frequently expensive ones) yield few if any applicants. This state of affairs applies not only to the newly graduated but also to the recently registered. Conversation suggests that the vast majority of young pharmacists expect to end up in general practice, but that this is a second or third choice, being in some way inferior to practice in industry or a hospital. How does this impression come about, unless it is implanted at an early stage in the students career and, once implanted, fostered and nurtured by university lecturers? In the writer's experience this is unlikely in the general, although possibly true in the particular. Surely part at least of the answer is that too many general practice pharmacists suggest that so much is wrong, and that they themselves are so dissatisfied with everything around them, that they do not by any means encourage others to join them—and if they do, it is only the thought of quick and large reward which motivates them.

Whatever the cause, it is somewhat alarming to see from the advertisements that other people are having the same trouble as ourselves. In two recent issues of the *Pharmaceutical Journal* (February 25 and April 8) some 11 advertisements were common to both—that is, some 15 per cent of the total. This figure does not include a new feature noticeable in recent years—Boots seeking retail staff. It was also noteworthy that, in the second issue examined several vacancies were close geographically to those in the first, suggesting that managers were simply transferring between shops, presumably and understandably for more money. Several of the "hard core" could be correlated with advertisements in the "locums wanted" columns.

The writer realises that this is not a time when new graduates reach the Register, but feels this straw poll is an indication that a correspondent in the *PJ* who claimed that an apparently thriving branch would soon close for lack of a manager, has raised an important problem. Finding qualified staff when someone leaves is calculated to give the writer nightmares, for it is not many months since he was frantically trying to ensure that a Kenyan citizen's work permit could be extended to allow him to manage a pharmacy for which a pharmacist had been sought for some three months with *no* response. It is a curious fact, and probably coincidental, that in the two *PJ* issues surveyed, no hospital vacancies were advertised in both. The obvious conclusion is that the 50 per cent male students of the past few years are moving up the ladder, while their female colleagues are leaving, presumably for the usual biological reasons. This is, of course, too sweeping as some hospital trained pharmacists are moving out into retail, and some women are happy with a career. But the writer is sure his assessment is not wildly inaccurate.

Pre-registration students of course merely reflect the prejudices and pattern of their predecessors. Into hospital they go, their precursors moving up to basic grade, or into establishments near the bright lights or the college where they were trained—in either case somewhere where there is a social pattern into which they can fit, and where old friendships can be maintained. They are unwilling to move to some small industrial town or suburb, where they might well be the only newcomer without obvious contacts.

With the recruitment problem described, where does the small multiple go? What is the future of some of the family firms built up over perhaps 30-50 years? Have they a future other than to be sold to Guinness, Kingswood or Westons? It seems that their fate is bound up with that of traditional general practice pharmacy and—like the owner-managed shops from whence they sprung —they must adapt. They must create an attractive long-term career for those young men and girls who are looking for more than just a quick buck . . . who want to be involved in patient care and the "status" to which they (and indeed the whole profession) feel we are all entitled.

The writer suggests that to this end the multiple will have to look to some form of group practice, similar perhaps to lawyers or accountants, with several offices but each individual specialising in a different aspect of the profession or the organisation of the practice. That this will need careful financial arrangement is without argument, for the capital involved in a six-pharmacy group is high. But with proper advice and transfer arrangements there seems no reason why honorable retirement cannot be planned for and pharmacists in groups such as ours move from employee to partner status, as other professional workers have done. Then we will recruit the young men again to what the writer has always found to be an entertaining and spiritually rewarding form of practice—and properly organised there is no reason why the financial rewards should not also be there, more abundantly than today.

At the moment we are drifting to a stage where the president of the Pharmaceutical Society in a few years time will lead a profession in which the majority are employed by hospitals or large companies, or backed by secret nominees.

History of pharmacy

Continued from p640

subjects and from 1920-43 he combined the role with his full-time appointment as chief pharmacist of the Leeds Public Dispensary and Hospital. Cooper, following West and his successor, Etchells, provided the only pharmaceutical element in the course up to 1927. The "back-up was provided by a team of chemists".

In the early 1920's application was made for the recognition of the Bradford classes for the Pharmaceutical Society examination but only temporary recognition was granted and failed on subsequent renewal application.

The Society favoured the only other school of pharmacy in Yorkshire, the privately-owned Pilkington-Sargeant's Leeds College of Pharmacy. However, Cooper secured approval from London University subject to certain provisions of equipment and laboratory accommodation. In those circumstances, the Pharmaceutical Society could hardly refuse recognition and so by 1927 the college had secured recognition by both.

Mr Mervyn Madge presented a paper on China, referring at the outset to archeological evidence of the early cultures and the various dynasties.

During the annual meeting Mrs J. Burnby, Enfield, Dr W. E. Court, Shipley, Dr M. P. Earles, London and Mrs A. Lothian Short, Edgware, were re-elected to the Society's Committee. Also re-elected were the auditors, Mr D. C. Harrod and Mr G. R. A. Short.

COMPANY NEWS

Searle acquire rights for mepartricin

G. D. Searle & Co have acquired worldwide marketing rights (except in Italy and Switzerland) for a new antibiotic, mepartricin, which is used for the treatment of vaginitis due to *Candida albicans* or trichomonads. The drug is already on the market in Italy and Switzerland as Tricandil, marked by Societa Prodolti Antibiotica, and Searle plan to introduce it in Europe and Latin America later this year.

ICI price increase

The Price Commission has recommended that the proposed increase of ICI's soda ash should be allowed provided there is no further increase until November. The proposed increase is £3.50 per tonne following an interim of £2.

Bayer sales up but profits down in 1977

In 1977 Bayer AG, Leverkusen, recorded sales of DM 9,931m an increase of 2.9 per cent over 1976. Of this amount, DM 4,221m was accounted for by domestic sales, so that the share of exports in the total sales fell to 57.5 per cent from 58.5 per cent. Pre-tax profit amounted to DM 750m, a decrease of 13.5 per cent.

On the average for all divisions, domestic prices had remained more or less constant, whereas export prices declined mainly due to changes in exchange rates. Personnel expenditure rose considerably despite reductions in the number of employees, but the costs of raw materials showed a slight downward trend.

For Bayer World, sales for the whole year were DM 21,392m, an increase of 2.4 per cent over 1976. Pre-tax profit amounted to DM 1,097m, a decrease of 15.6 per cent.

In the UK Bayer achieved a record turnover of £96.8m, a 33 per cent increase, but rises in costs due to price inflation and overheads affected the net profit. There was also considerably increased expenditure on promotion. All the company's nine divisions contributed to the good results in 1977, but the performance of the pharmaceuticals and agrochem divisions was outstanding.

Briefly

Watt Yardley Chemicals Ltd have moved to Crown Works, Langborough Road, Wokingham, Berkshire RG11 2BH.

Shannon Cosmetics Ltd, a new company presenting a range of perfumes and after-shaves, has been formed by Mr Peter Day, former general manager and buyer for Ross Trademart. Shannon Cosmetics will operate from 23 Union Road, Croydon CR0 2XU.

The new **Earex Products Ltd,** factory specially built for the manufacture of Earex ear drops on the site of Ernest Jackson & Co Ltd at Crediton is now in full production and is capable of producing 100 per cent sales growth anticipated over the next two years.

Appointments

Scholl (UK) Ltd: Mr Andrew Chater has been appointed brand manager for new products. He was previously product manager with Ranks Hovis McDougall Ltd.

Coty Ltd: Mr Henry Jackson has been appointed sales director with effect from April 3. He was formerly in the marketing and sales areas with Procter & Gamble Ltd and Pedigree Petfoods Ltd.

Savory and Moore Ltd have acquired the businesses of William Challice Ltd at 9 Mengham Road, Hayling Island, Hampshire, 30 Station Road, Hayling Island, Hampshire, and 38 High Road, Emsworth, Hampshire. The Emsworth branch will continue to be managed by Mr D. P. Pearson, MPS, the Station Road, Hayling Island branch by Mr R. G. Charter, MPS, and the Mengham Road, Hayling Island business will also be under new management.

The mayor and mayoress of Slough, councillor George Brooker and Mrs Brooker on a visit to Nicholes Laboratories

MARKET NEWS

Currency problems

London April 19: Once again sterling is faced with exchange-rate problems and last week's Budget seemed to make the position worse. From the halcyon days of three months ago sterling has fallen considerably not only against the US dollar but more noticeably against the stronger European curencies. In the space of two months the £ has lost over 9 per cent against the West German DM so unless there is a turn round soon higher chemical prices are inevitable.

The market for essential oils is expected to continue quiet for the next month as buyers take stock of trading at the Canton fair which opened this week. Meanwhile *arvensis* peppermint was easier.

Botanicals are mostly firm with exceptions of cinnamon bark, aloes, buchu and the balsams. Some grades of nutmeg were dearer and others are expected to follow since the crop in Grenada is reported to be below expectations. Cochin ginger rose sharply as certain Middle East countries came into the market. There is a shortage of benzoin almonds with prices nominal. American-grown botanicals continue to firm.

No changes were reported in pharmaceutical chemicals during the week but a rise in barbiturates is forecast in the near future.

WESTMINSTER

Pharmacists write to Mr Ennals

Mr David Ennals, Secretary for Social Services, has received since March 20 330 "representations" from pharmacists concerning their remuneration. He disclosed this figure on Monday in a Parliamentary written answer.

A number of other questions on chemists and their problems were asked last week by Mr Clement Freud and Mr Laurie Pavitt. In answering Mr Freud, who asked if the Secretary for Social Services proposed any further action to encourage pharmacies in rural areas to remain operative, Mr Roland Moyle, Minister for Health, said the new differential payment system would produce substantial improvements. More pharmacies would also qualify for the Essential Small Pharmacies Scheme.

The Secretary for Social Services had undertaken to review the effects at the end of the year, he said. The proposals of the Clothier Committee on rural dispensing were currently being considered by the professions and the Government awaited any recommendations.

Mr Moyle also told Mr Freud that he had received no representations from pharmacists on additional allowances for containers. Asked for the total number of pharmacies in England and Wales, Mr Moyle said there were 9,640 by February 28, 1978.

Mr Pavitt asked for the number of pharmacies lost as a result of the merger of Boots Ltd and Timothy Whites Ltd. Mr Moyle said the information was not available in that form but 169 branches in 1969 and 84 in 1970 had closed. Closures of Boots' pharmacies had since averaged 40 a year.

Asked by Mr Pavitt if 1978 was the first year in which the rate of pharmacy closures had decreased and if the policy was designed to continue the decrease, Mr Moyle said the annual rate of closures had decreased in each of the past two years. The net reduction in the number in 1977 was the smallest since 1963. The new system of payment should reduce the vulnerability of smaller pharmacies.

Call for increase in VAT limit

A motion was tabled by Welsh Nationalists in the Commons this week calling on the Chancellor of the Exchequer to raise the VAT threshold to £50,000. It was pointed out that there were 907,000 registered businesses in the UK with a turnover of less than £50,000. Their VAT payment was £170m but the cost of collecting this sum was £220m, leaving a deficit of £50m.

An attempt to introduce a Private Member's Bill which would amend the Shops Act to allow shops to open for promotional functions in the evenings was rejected by 148 votes to 128.

Drug costs and remuneration

Mr Clement Freud asked for the expenditure on National Health Service drugs in the past three years, the rise in annual percentage terms and by what amounts remuneration to pharmacists had risen over the period. Mr Roland Moyle, Minister for Health, gave the following figures in the Commons last week.

Year ending March 31	Reimbursement of drug costs £m (a)	Increase over previous year %	Remuneration £m (b)	Increase over previous year (£m)
1975	207	21.1	77	14
1976	271	30.9	98	21
1977	345	27.3	110	12

(a) Drugs, medicines, dressings, appliances and containers supplied by pharmacies, drugstores and appliance contractors.
(b) Operating costs and return on capital employed.

COMING EVENTS

Monday, April 24

Leicestershire Branch, Pharmaceutical Society, Lecture theatre, Postgraduate Centre, Leicester Royal Infirmary, at 8 pm. Mr Mohammed Aslam (Research Fellow, University of Nottingham) on "Asian medicines in the UK."

North Metropolitan Branch, National Pharmaceutical Association, and **Pharmaceutical Society,** Presbyterian annexe, School of Pharmacy, 8 pm. Mr S. R. Axon (PSNC) on "How the PSNC works." Followed by NPA annual meeting.

Tuesday, April 25

Faculty of the history and philosophy of medicine and pharmacy, Worshipful Society of Apothecaries, Apothecaries Hall, Blackfriars, at 5.30 pm. Osler lecture—Mrs Dorothy Crisp (lecturer in chemistry, Gloucester College) on "Medicine and the Navy in the 19th century."

Royal Society of Health Congress, Pavilion theatre and Pavilion ballroom, Bournemouth. Until April 28.

Wednesday, April 26

Sheffield Branch, Pharmaceutical Society, Jessop Hospital lecture theatre, at 8 pm. Annual meeting.

Sunderland Branch, Pharmaceutical Society, Postgraduate medical centre, Sunderland, at 8 pm. Annual meeting.

Worthing & West Sussex Branch, Pharmaceutical Society, Village Hall, Ferring, at 8 pm. Annual meeting followed by a wine and cheese party and film presentation by Mr Anthony Chaplin on "Sherry and allied wines."

Thursday, April 27

Bristol Branch, Pharmaceutical Society, Edward Jenner Centre, Royal Infirmary, at 7.30 pm. Annual meeting followed at 8.30 pm by a talk by Miss Maureen Tomison (Society's head of publicity).

Crawley, Horsham & Reigate Branch, Pharmaceutical Society, Committee Room, Crawley Hospital, at 7.30 pm. Annual meeting.

Scottish Borders Branch, Pharmaceutical Society, Peel House, Peel Hospital, By Galashiels, at 7.30 pm. Annual meeting.

Slough Branch, National Pharmaceutical Association, Dolphin Hotel, Slough, at 8 pm. Annual meeting and photographic evening.

Thames Valley Pharmacists' Association, visit to Pharmaceutical Society headquarters, 1 Lambeth High Street, London, SE1, at 7.30 pm.

Friday, April 28

Chesterfield Branch, National Pharmaceutical Association, Devonshire Room, Station Hotel, Chesterfield, at 8 pm. Annual meeting.

Croydon Branch, Pharmaceutical Society, Greyhound Hotel, Park Lane, Croydon, at 8 pm. Annual meeting followed by discussion of Branch Representatives motions.

Advance information

Border region, Pharmaceutical Society. Three Sunday postgraduate courses for general practice pharmacists, May 7, 14 and 21, Sunderland Polytechnic, 10 am to 5.30 pm. Applications to head of school of pharmacy, Sunderland Polytechnic. Also one-week regional residential course for hospital pharmacists, June 5-9, at Stannington. General practice pharmacists welcome. Details from Sunderland school of pharmacy.

Mid-Glamorgan Branch, Pharmaceutical Society, May 12, Working dinner at New Inn, Pontypridd at 7.30 pm. Guest of honour Mr Alec Jones MP. Applications for tickets (£4.50) to the Secretary, 34 Parc-y-Bryn, Creigian, Mid-Glamorgan.

Senior management retail security seminar, May 17, Piccadilly Hotel, Piccadilly; May 24, Grand Hotel, Ayton Hotel, Ayton Street, Manchester; May 31, Mayfair Suite, New Bristol Centre, Frogmore Street, Bristol. Speakers, Peter Jones, group security controller, Army & Navy Stores, and Denis Bryne, group security officer, Lillywhite group. Applications (£40 excluding VAT) to 20th Century Education Ltd, 293 Kingston Road, Leatherhead, Surrey.

Sherwood Regional Conference, June 4 at Normanton Inn, opposite Clumber Park gates Morning session—Professor J. Hawthorne (University of Nottingham) on "The Mechanism of nervous transmission". Afternoon—Discussion on training and education of pharmacists. Introduced by Professor P. Elworthy (University of Manchester) and Mr J. Bannerman (member of Society's Council). Applications (£4) to Miss G. M. Watson, 36 Queens Drive, Beeston, Nottingham.

Classified Advertisements

Post to Classified Advertisements, Chemist & Druggist, 25 New Street Square, London EC4A 3JA.
Telephone 01-353 3212

Publication date Every Saturday
Headings All advertisements appear under appropriate headings.
Copy date 12 noon Tuesday prior to publication date.
Advertisements should be prepaid.
Circulation ABC January/December 1976: 14,510
Display/Semi Display £5.00 per single column centimetre, min 25mm. Column width 44mm.
Whole Page £350 (275mm×186mm)
Half Page £200 (135mm×186mm)
Quarter Page £110 (135mm×91mm)
Lineage £1.00 per line, minimum 5 lines at £5.00
Box Numbers £0.50 extra.
Series Discounts 5% on 3 insertions or over. 10% on 7 insertions or over. 15% on 13 insertions or over.

APPOINTMENTS

REPRESENTATIVE

Experienced in dealing with hospital administration, health authorities, etc., required by importers of bedlinnen and household textiles to open new accounts in this field.
Usual large company benefits.
Apply in writing to:
The Managing Director,
Afco Group,
95-111 Bayham Street,
Camden Town,
London, NW1.

THE PHARMACEUTICAL GENERAL COUNCIL (SCOTLAND)

Applications are invited for the post of

ASSISTANT SECRETARY

The successful candidate will preferably be in the age group 25-35, a member of or eligible for membership of The Pharmaceutical Society of Great Britain. Some experience in retail pharmacy would be an advantage

Duties will involve statistical, accountancy and secretarial work associated with the negotiation of chemists' remuneration for NHS dispensing services.

The salary offered will be commensurate with age, experience and responsibilities but will not be less than £5,000 per annum.

A non-contributory superannuation scheme is in operation

Further particulars and application forms may be obtained from The Secretary, The Pharmaceutical General Council (Scotland), 36 York Place, Edinburgh EH1 3HU Telephone 031 556 2076. Formal applications should reach the Secretary by 31 May 1978.

SALES REPRESENTATIVE

Northern Ireland

We require an experienced man or woman with proven ability. As leading manufacturing chemists we supply an extensive range of packed goods, dispensing aids and bulk medicinals to retail and wholesale chemists. Applicants age is of secondary importance to a knowledge of selling to these customers.

Remuneration is by basic salary and substantial commission based on territory turnover. Help with relocation will be given, if necessary.

Apply in strict confidence with details of career to date to:

R. Thornton
THORNTON & ROSS LTD.
Linthwaite, Huddersfield

MISCELLANEOUS

"FASHION JEWELLERY"
Jodez (Manchester) Ltd.,
34 Shudehill, Manchester M4 1EY
Tel: 061-832 6564.

Largest and most exclusive range of direct and imported continental jewellery

CHEMIST & DRUGGIST DIRECTORY 1978
ORDER NOW!
See page 648 for full details.

WANTED

PHARMACEUTICAL ANTIQUES. Drug runs, shop interiors, bottles, etc., urgently wanted. Kindly contact Robin Wheeler Antiques, Parklands, Park Road, Ashtead, Surrey. Telephone: Ashtead 72319.

WANTED URGENTLY. Old Mahogany chemist shop fittings. We remove and pay cash. John Derham Ltd., Earsham Hall, Earsham, Bungay, Suffolk NR35 2AN. Tel Bungay 3423.

A. & H. OTTER LTD.
(established 1920)

Largest cash stock buyers in the trade for manufacturers' clearing lines, and retailers' stocks.

8 Northburgh Street, London EC1V 0BA. Tel: 01-253 1184/5. Telegrams: "Salvall", London, E.C.1.

FOR SALE

JEWELLERY. Sterling silver and 9ct gold. A wide range of ear-rings, rings, bracelets, charms etc., brought to your door at best cash prices. Write Lloyd Cole, 37 College Avenue, Maidenhead.

SINGLE EDGE BLADES (E.R. TYPE). Packs of 100 £4.50 inc VAT, post free. Free sample on request. Cheque with order. Gordon Chemists, 2b Cricklewood Lane, London, NW2 1EX.

ONE-SIZE TIGHTS from £1.95 doz. plus VAT. Min. order 6 doz. overall CWO. Carriage free. Full range Price List. E &R Kaye, 3 South Place, London EC2.

SOLID WOOD FITTED DISPENSARY. 36" Formica Work Surface plus 48" above. 50 draws, sliding units (some double) with glass fronts. At present in three sided arrangements totalling over 26 ft. linear. Excellent condition. Purchaser removes. Phone Welwyn Garden City 26998.

SHOPFITTING

SUPER SHELVING SYSTEM WIL INCREASE YOUR TOILETRY SALE BY HUNDREDS of pounds. Send fo colour illustration or ask us to call fo instant quote. Glass display counter with lighting, island sites and show cases. Early delivery direct from mak ers. **THIRSK SHOPFITTINGS,** 741 743 Garrett Lane, London SW17 OPD Tel: 01-946 2291.

FULL SHOPFITTING SERVICE by th experts—E Plan Ltd., N.P.A. recom mended. E Plan Ltd., E Plan Estate Newhaven BN9 0HE, Sussex. Tele phone 3323/6. Telex: 87208.

IMPROVE YOUR BUSINESS
with skilled planning and expertise. Ranges of Modern Shop Equipment available at keen prices
LET US TALK IT OVER
Phone 061-445 3506
H. A. PEYSER
20 Fairfax Avenue, Didsbury
Manchester M20 0AJ

Telephone
01-353 3212
to advertise!

Please Address
Box No. replies to:
25 New Street Square,
London EC4A 3JA
Box No. .....
Chemist and Druggist

'AFRO' PRODUCTS

English, American and Caribbean products. We offer a unique service, to the retailer, in most popular brands of hair and skin cosmetics. Johnson's, Palmer's, St. Clare's, Dax, La India, etc., etc.

Zebbra

ZEBBRA WHOLESALERS,
127 Stoke Newington High St.,
London, N16.
Phone 01-249 3161.

BUYER'S GUIDE

AIR FRESHENERS
Airwick Air Fresheners are available from: Jeyes UK Limited, Brunel Way, Thetford, Norfolk IP24 1HA. Tel. Thetford 4567. Telex: 81401.

ANTASIL
Stuart Pharmaceuticals Ltd, Carr House, Carrs Road, Cheadle, Cheshire SK8 2EG. Tel: 061-491 1444. Grams: Stuart, Cheadle, Cheshire. Telex: 668585.

ASPRO CLEAR
Nicholas

Nicholas Laboratories Ltd, 225 Bath Road, Slough, Bucks. Tel. Slough 23971. Grams: Nicholas Slough. Telex: 848388.

ASPRO REGULAR
Nicholas

Nicholas Laboratories Ltd., 225 Bath Road, Slough, Bucks. Tel: Slough 23971. Grams: Nicholas, Slough. Telex: 848388.

ATHLETIC SUPPORTS (BODYBELTS)
Sallis, E. Ltd., Vernon Works, Basford, Nottingham NG6 00H. Tel. Nottingham 77841-2/78545-2.

BABY FEEDING BOTTLES
William Freeman & Co. Ltd., Suba-Seal Works, Staincross, Barnsley, South Yorkshire. Tel. 0226-84081.
Lewis Woolf Griptight Ltd., 144 Oakfield Rd., Sellyoak, Birmingham B29 7EE. 021-472 4211. Telex: 338666.

BABY FEEDING PRODUCTS
"Canon Babysafe" distributed by:- Jackel & Co. Ltd., Kitty Brewster Estate, Blyth, Northumberland. Tel: Blyth 2596/7/8.

BABY FEEDING REQUISITES
William Freeman and Company Ltd., Suba-Seal Works, Staincross, Barnsley, South Yorkshire. Tel: Barnsley 84081. Telex: 547186.
'Canon Babysafe,' Jackel & Co. Ltd., Kitty Brewster Estate, Blyth, Northumberland. Tel: Blyth 2596/7/8.

BABIES' NAPPIES, PANTS, FEEDERS
The Trimster Co. Ltd., Portland Road, Dorking, Surrey RH4 1EW.

BABY PANTS
Lewis Woolf Griptight Ltd., 144 Oakfield Rd., Sellyoak, Birmingham B29 7EE. 021-472 4211. Telex: 338666.
Hellane Manufacturing Ltd., Burdett House, Newbridge Street, London EC4. Tel: 01-248 0276.
Trimster Co. Ltd., Portland Road, Dorking, Surrey. (0306) 4970.

BATHROOM SCALES
Hanco International Ltd., Unit 15, Arden Forest Ind Est, Alcester, Warwickshire. Alcester 3456.

BATTERY OPERATED WALL CLOCKS
Hanco International Ltd., Unit 15, Arden Forest Ind Est, Alcester, Warwickshire, Alcester 3456.

BOOKS BY JENSEN TO GUARD YOUR MONEY
"Buying a Shop with Notes on Selling" could save you thousands. Includes specimen contract, goodwill assessment factors etc. "More Profit from your Stock." How to use space profitably, how to budget, how to research your market, etc. £2.50 each (inc. UK postage) from booksellers or direct from author, consultant Eric Jensen, B.Com. M.P.S., 39 Withdean Crescent, Brighton BN1 6WG. Tel: (0273) 501079.

BUBBLE BATH
The best buy at its price. Andre Philippe Ltd., 71/71b Gowan Avenue, Fulham, SW6 6RJ. Tel: 2194/2397. Cables: Andrephil, London.

BURSON HOSIERY
Credenhill Ltd., 214 Queens Road, Beeston, Notts NG9 2DB. Tel: Nottingham 225913.

CAPTAIN MOLYNEUX
Parfums Molyneux, Allenby House, 3 Main Street, Fulford, Yorks. 0904 29752.

CHEMIST SUNDRIES
William Freeman and Company Ltd., Suba-Seal Works, Staincross, Barnsley, South Yorkshire. Tel: Barnsley 84081. Telex: 547186.

CONTACT LENSES
Contact Lenses (Manufacturing) Ltd., 14-16 Child's Place, Earls Court, London SW5 9RX. 01-373 6607/9, 01-373 5000. Telex: 919031.

CONTACT LENS SOLUTIONS
Contact Lenses (Manufacturing) Ltd., 14-16 Child's Place, Earls Court, London SW5 9RX. 01-373 6607/9, 01-373 5000. Telex: 919031.
Barnes-Hind Ltd., Isis Trading Estate, Statton Road, Swindon, Wilts SN1 2PQ. Tel: 0793 26591. Telex: 499654.

COLOSTOMY & ILEOSTOMY APPLIANCES
Danmed Ltd., Somersham Road, St Ives, Cambs. Tel: 0480-62600. Telex: 32674.

CONTRACEPTIVE SHEATHS—HORIZON, CONTURE, TAHITI STIMULA
Contact Nicholas Hall, Director of Marketing, Akwell. A division of G. D. Searle & Co. Ltd., PO Box 53, Lane End Road, High Wycombe, Bucks. Tel: High Wycombe (STD 0494) 21124.

CONTAINERS—DISPENSING PLASTIC/GLASS SAFETY OR STANDARD PACKS
Ceebrite Ltd., Newgate Street Village, Herts. Cuffley 2622 (London Code 284).

COPPER BRACELETS
Sahona Rheumatic Relief Co. Ltd., 73 New Bond St., London W1. 01-727 4165.

COSMETIC PURSES AND HOLDALLS
John O'Donnell, Box 33, Chelmsford CM1 5NH. Tel: Chelmsford (0245) 56112.

COSMETICS & TOILETRIES
F. C. Paton (Southport) Ltd., 43a Old Park Lane, Southport, Merseyside, Southport 27717.

COSMETIC MANUFACTURERS (TANGEC)
Winarick (UK) Ltd., Unit 15, Heywood Industrial Estate, Heywood, Lancs. (0706) 66201.

COSMETICS
Afro Girl Cosmetics Ltd., 77 Lower Clapton Road, London E5. 01-985 8819 and 01-476 5414.
Crème Simon Ltd., 7 Lauderdale Parade, Lauderdale Road, London W9 1LU. Tel: 01-286 7509.

CREAMS
H. E. B. Pharmaceuticals for dermatological creams and ointments. J. Waterhouse & Co. Ltd., 6 Church Street, Ashton-u-Lyne, Manchester. 061-330 5667.

CYDER VINEGAR
Whiteways of Whimple Ltd., (Whiteways) Whimple, Exeter EX5 2QJ (0404) 822332. Telex: 42959.

DANDRUFF SHAMPOO
Stafford-Miller Ltd., 166 Great North Road, Hatfield, Herts., Hatfield 63221.

DANDRUFF SHAMPOO MEDCROSS MEDICATED
Andre Phillipe Ltd., 71/71b Gowan Avenue, Fulham SW6 6RJ. Tel: 736-2194/2397. Cables: Andrephil London.

DENTURE CLEANERS
Stafford-Miller Ltd., 166 Great North Road, Hatfield, Herts. Hatfield 63221.

DENTURE FIXATIVES
Stafford-Miller Ltd., 166 Great North Road, Hatfield, Herts. Hatfield 63221.
'Aezodent,' Ayrton Saunders & Co. Ltd., 34 Hanover St., Liverpool L69 1BL. Tel: 051-709 8282. Telex: 627711.

DENTURE REPAIR UNITS
"Dentifix" available from: Dental Projects (Laboratories) Ltd., 75A High Street, Staines, Middx. Tel: Staines 54166.

DISTRIBUTORS OF COSMETICS AND FRAGRANCES
Germaine Monteil (UK) Ltd., 33 Old Bond Street, London W1. 01-629 1378. Telex: 264320 BACLDNG.

DISPENSING TABLETS
APS

Approved Prescription Services Ltd., PO Box 15, Whitcliffe Road, Cleckheaton, West Yorkshire, England BD19 3BZ. Tel: Cleckheaton (0274) 876776.

DISPOSABLE NAPPIES
Lewis Woolf Griptight Ltd., 144 Oakfield Rd., Sellyoak, Birmingham B29 7EE. 021-472 4211. Telex: 338666.

DORMEL MINIATURE FEEDERS/TEATS
United Novelties Ltd., Field Works, Leagrave Street, Clapton Park, London E5 9QT, 01-985 2219.

ELASTIC AND SUPPORT HOSIERY
Credenhill Ltd., 214 Queens Road, Beeston, Notts. NG9 2DB. Tel: Nottingham 225913.

ELASTIC HOSIERY LENTON PRODUCTS (SUPREME)
Newcastle House, Castle Boulevard, Nottingham NG7 1HF. Tel: Nottingham 45462.

ETHICAL MEDICINES (POTABA MYOTONINE)
Glenwood Laboratories Ltd., 19 Winchcap, Canterbury, Kent. (0227) 60139.

EVANOL
Benton Beauty Productions Ltd., Naseby House, 49 Elwood Street, Highbury, London N5 1EE. Tel: 226 1984. Cables: Limitex, London N5.

FACECLOTHS
John O'Donnell, Box 33, Chelmsford CM1 5NH. Tel: Chelmsford (0245) 56112.

FASHION JEWELLERY
Exclusive lines, latest fashions. Jodez (Manchester) Ltd., 34 Shudehill, Manchester M4 1FY. Tel: 061-832 6564.

FEMINAX
Nicholas

Nicholas Laboratories Ltd., 225 Bath Road, Slough, Bucks. Tel: Slough 23971. Grams: Nicholas Slough. Telex: 848388.

FIXTURES AND FITTINGS
Fixtures and Fittings for Dispensaries
Complete service by specialists
Phone Allan Campbell
AC SHOPFITTERS
34B Jeffery Street
Gillingham, Kent
Medway (0634) 55508

GARDEN PRODUCTS
Sorex (London) Ltd., Fulton House, Empire Way, Wembley, Middlesex HA9 0LX. Tel: 01-902 8686.

GEORGE'S AMERICAN MARVEL LINAMENT
Hubert Thomas A. C. & Co. Ltd., Copperworks Road, Llanelli, Dyfed. Tel: Llanelli 2576. Telex: Thomas 2576.

GROSS PHARMACIST CASH REGISTER
Gross Cash Registers Ltd., Crowhurst Road, Hollingbury, Brighton, East Sussex BN1 8AQ. Tel: 0273 506241.

HACTOS
Hubert Thomas A. C. & Co. Ltd., Copperworks Road, Llanelli, Dyfed. Tel: Llanelli 2576. Telex: Thomas 2576.

HAIR CARE PRODUCTS
Alberto-Culver Co., Hound Mills Industrial Estate, Telford Road, Basingstoke, Hants. RG21 2YZ. Tel: 0256-66808. Telex: 858708.

HAIR COSMETICS
Wella (GB) Ltd., Wella Road, Basingstoke, Hampshire RG22 4AF. Tel: Basingstoke 20202. Telex: 858378.

HAIR FASHION AIDS
Laughton & Sons Ltd., Warstock Road, Birmingham B14 4RT. 021-474 5201.

HAND BAG ACCESSORIES
Laughton & Son Ltd., Warstock Road, Birmingham B14 4RT. 021-474 5201.

HOMEBREWING & WINEMAKING
Southampton Homebrews Ltd., Brewmaker House, 12 Rochester Street, Northam, Southampton SO1 1QW. Tel: 36044/5/6.
Viking Brews Ltd., 28/29 Clive St., North Shields, Tyne & Wear. Tel: North Shields 73402.

HOSPITAL AND HOME NURSING REQUISITES
William Freeman and Company Ltd., Suba-Seal Works, Staincross, Barnsley. Tel: Barnsley 84041. Telex: 547186.

HOT WATER BOTTLES
Cannon Rubber Co. Ltd., Ashley Road, Tottenham, London. Tel: 01-808 6261/9. Telex: 261906.
William Freeman and Company Ltd., Suba-Seal Works, Staincross, Barnsley, South Yorkshire. Tel: Barnsley 84081. Telex: 547186.

INSECTICIDES
De Witt International Ltd., (Dethlac), Seymour Road, London E10 7LX. 01-539 3334.
Sorex (London) Ltd., Fulton House, Empire Way, Wembley, Middlesex HA9 0LX. Tel: 01-902 8686.

INTER-DENS STICKS
Nicholas

Nicholas Laboratories Ltd., 225 Bath Road, Slough, Bucks. Tel: Slough 23971. Grams: Nicholas Slough. Telex: 848388.

INTER-DENS TOOTHBRUSHES
Nicholas

Nicholas Laboratories Ltd., 225 Bath Road, Slough, Bucks. Tel: Slough 23971. Grams: Nicholas Slough. Telex: 848388.

ITALIAN PERFUMES (NAPOLEON) 'DESIREE' PERFUMES AND COLOGNES 'IN' EAU DE PARFUM AND ATOMISERS
Andre Philippe Ltd., 71/71b Gowan Avenue, Fulham SW6 6RJ. Tel: 736 2194/2397. Cables: Andrephil London.

KITCHEN SCALES
Hanco International Ltd., Unit 15, Arden Forest Ind. Est., Alcester, Warwickshire, Alcester 3456.

KWELLS
Nicholas

Nicholas Laboratories Ltd., 225 Bath Road, Slough, Bucks. Tel: Slough 23971. Grams: Nicholas Slough. Telex: 848388.

LITESOME SUPPORTERS
Credenhill Ltd., 214 Queens Road, Beeston, Notts NG9 2DB. Tel: Nottingham 225913.

MANICURE ACCESSORIES
John O'Donnell, Box 33, Chelmsford CM1 5NH. Tel: Chelmsford (0245) 56112.

MANICURE ACCESSORIES
John O'Donnell, Box 33, Chelmsford CM1 5NH. Tel: Chelmsford (0245) 56112.

MATEY
Nicholas

Nicholas Laboratories Ltd., 225 Bath Road, Slough, Bucks. Tel: Slough 23971. Grams: Nicholas Slough. Telex: 848388.

MEDICATED TOOTHPASTE
Stafford-Miller Ltd., 166 Great North Road, Hatfield, Herts. Hatfield 63221.

MEN'S AFTERSHAVE LOTION (MONSIEUR PHILIPPE)
Andre Philippe Ltd., 71/71b Gowan Avenue, Fulham SW6 6RJ. Tel: 736 2194/2397. Cables: Andrephil London.

NATURAL PRODUCTS LTD. MANUFACTURERS & DISTRIBUTORS
Natura Products Ltd., 90 Belsize Lane, London NW3. 01-435 1193/4 or 01-794 2244 (Replica 27893).

NEW VAGINAL SYRINGE
Saffron, 5 Rowlands Road, Worthing, West Sussex 3JJ BN11. Tel: Worthing (0903-34034).

PERFUME (FETE)
Parfums Molyneux, Allenby House, 3 Main Street, Fulford, Yorks. 0904 29752.

PERFUME (VIVRE)
Parfums Molyneux, Allenby House, 3 Main Street, Fulford, Yorks. 0904 29752.

PHOTOGRAPHIC EQUIPMENT
Agfa-Gevaert Ltd., Great West Rd., Brentford, Middlesex TW8 9AX. Tel: 560-2131 (25 lines).

BUYER'S GUIDE

PHOTOGRAPHIC PROCESSORS
Tynecolour Ltd., Western Approach, South Shields, Tyne & Wear. Tel: 0632 563911.

PHOTOGRAPHIC PROCESSING COLOUR—B/W

RAPIDFOTO LABS
24-hr. London pick-up. Same day mail service return. 93 Crawford St., London W1. Tel: 01-723 6011.

PHOTOGRAPHIC WHOLESALERS
Tynecolour Ltd., Western Approach, South Shields, Tyne & Wear. Tel: 0632 563911.

POLLEN TABLETS

pollenaps

Approved Prescription Services Ltd., P.O. Box 15, Whitcliffe Road, Cleckheaton, West Yorkshire, England BD19 3BZ. Tel: Cleckheaton (0274) 876776.

POWDER COMPACTS
Laughton & Sons Ltd., Warstock Road, Birmingham B14 4RT. 021-474 5201.

PRICE MARKING
Dymo Ltd., Retail Systems Division, Victoria Road, Feltham, Middlesex. 01-890 1388. Telex: 21204.

PRICE TICKETS, LABELS AND POSTERS
Falconcraft (Aluminium) Ltd., Hainault Road, Romford, Essex. Tel: Romford 24621.

RADOX BATH SALTS
Nicholas

Nicholas Laboratories Ltd., 225 Bath Road, Slough, Bucks. Tel: Slough 23971. Grams: Nicholas Slough. Telex: 848388.

RADOX HERBAL BATH
Nicholas

Nicholas Laboratories Ltd., 225 Bath Road, Slough, Bucks. Tel: Slough 23971. Grams: Nicholas, Slough. Telex: 848388.

RADOX SHOWERFRESH
Nicholas

Nicholas Laboratories Ltd., 225 Bath Road, Slough, Bucks. Tel: Slough 23971. Grams: Nicholas, Slough. Telex: 848388.

RENNIE
Nicholas

Nicholas Laboratories Ltd., 225 Bath Road, Slough, Bucks. Tel: — Slough 23971. Grams: — Nicholas Slough. Telex: — 848388.

RODENTICIDES
Rentokil Ltd. (Alphakil, Rodine, Biotrol) Products Division Felcourt, East Grinstead, Sussex. East Grinstead 23661.
Sorex (London) Ltd., Fulton House, Empire Way, Wembley, Middlesex HA9 0LX. Tel. 01-992 8686.

RUBBER STAMPS
Mark C. Brown & Son Ltd., P.O. Box 69 4 Baker Street, Hull. Tel: 0482 23464.

SUNGLASSES
Sale Optical Company, Normanhurst, 195 Brooklands Road, Sale, Cheshire.

SURGICAL DRESSING
Adhesive Fabrics (Manchester) Ltd., Washington Mill, 1 York Street, Manchester M1 7DC. Tel: 061-273 5285.

SHOPFITTINGS AND EQUIPMENT
Falconcraft (Aluminium) Ltd., Hainault Road, Romford, Essex. Tel: Romford 24261.

SHOPFITTING

ALPLAN SHOPFITTING LTD.
Alplan House, Cavalier Road
Heathfield, Newton Abbot
Devon TQ12 6TG
Tel. Bovey Tracey (0626)
832059 — 3 lines

INTERPLAN SYSTEM 80+
Modular units with complete shopfitting services. NPU-NPA recommended (for 15 years).

Coloured brochure from Olney Bros. Ltd., Northbridge Road, Berkhamsted, Herts. Tel. (04427) 5417-9.

E. Plan Ltd., E. Plan Estate, New Road, Newhaven BN9 0HE.

SHOP FITTINGS AND SELFSELECTION SYSTEMS
Modern Merchandising Services Ltd., P.O. Box 17, Vicarage St., Oldbury, Warley, West Midlands, B68 8HG. Tel: No. 021-552-2696/7.

SHOPKIT

SHOPKIT
The world's first D.I.Y. professional shopfitting system. Free installation offer. Most shopfitters would charge you over £3,000 for a complete refit — the SHOPKIT Price would only be in the region of £1,600. So, apart from saving you £1,400, we will deliver and install your SHOPKIT free if your order exceeds this amount.

Details from:

SHOPKIT
50 Ivatt Way
Peterborough PE3 7PN
Tel: Peterborough 0733 265263
Manchester 061-228 2561
London 01-653 6653
Birmingham 021-643 4636

SILICONE COATED FOLEY CATHETER
Warne Surgical Products Ltd., South Way, Andover, Hampshire SP10 5GB. Tel: Andover 4261. Telex: 47236.

SKIN ADHESIVES
Warne Surgical Products Ltd., South Way, Andover, Hampshire SP10 5GB. Tel: Andover 4261. Telex: 47236.

SOAP AND PERFUME MANUFACTURERS
Creme Simon Ltd., 7 Lauderdale Rd., London W9 1LU. Tel: 01-286 7509.

SOOTHERS
Lewis Woolf Griptight Ltd., 144 Oakfield Rd., Sellyoak Birmingham B29 7EE. Tel: 021-472 4211. Telex: 338666.
William Freeman & Co. Ltd., Suba-Seal Works, Staincross, Barnsley, South Yorkshire. Tel: 0226 84081.

SUPPORT HOSIERY
LENTON PRODUCTS (SUPREME). Newcastle House, Castle Boulevard, Nottingham NG7 1HF. Tel: Nottingham 45462.

SURGICAL DRESSINGS
Adhesive Fabrics (Manchester) Ltd., Washington Mill, 1 York Street (off Charles St.), Manchester M1 7DE. Tel: 061-273 5285.

"SPECIALIST" CONTACT LENS SOLUTION WHOLESALERS 1-1000 BOTTLES
Hillyard Contact Lens Supplies, 55 Barton Road, Water Eaton Estate, Milton Keynes, Bucks. (0908) 74537.

SWIM CAPS
William Freeman and Company Ltd., Suba-Seal Works, Staincross, Barnsley, South Yorkshire. Tel: Barnsley 84081. Telex: 547186.

TAMPONS
Tampax Ltd., Dunsbury Way, Havant PO9 5DG Hampshire, Havant. Tel: 474141.

TEATS
Lewis Woolf Griptight Ltd., 144 Oakfield Rd., Sellyoak Birmingham B29 7EE. Tel: 021-472 4211. Telex: 338666.
William Freeman & Co. Ltd., Suba-Seal Works, Staincross, Barnsley, South Yorkshire. Tel: 0226 84081.

TINOL TEETHING SYRUP
Chemist Supplies. 103 Charlestown Road East, Woodsmoor, Stockport, Cheshire. Tel: 061-483 7630.

TOILET BAGS
John O'Donnell, Box 33, Chelmsford CM1 5NH. Telephone: Chelmsford (0245) 56112.

TONIC WINE
Whiteways of Whimple Ltd., (Whiteways) Whimple, Exeter EX5 2QJ Tel: (0404) 822332. Telex: 42959.

TOOTHBRUSHES
Stafford-Miller Ltd., 166 Great North Road, Hatfield, Herts. Hatfield 63221.

TRANSLET ROYAL COLOSTOMY SET
Searle Medical, P.O. Box 88, High Wycombe, Bucks HP12 3RE. Tel: High Wycombe 446551. Telex: 837555.

TRANSLET OSTOMY DEODORANT
Searle Medical, P.O. Box 88, High Wycombe, Bucks, HP12 3RE. Tel: High Wycombe 446551. Telex: 837555.

TRANSLET KARAYA GUM FOR OSTOMISTS
Searle Medical, P.O. Box 88, High Wycombe, Bucks HP12 3RE. Tel: High Wycombe 446551. Telex: 837555.

TRAVEL SICKNESS REMEDIES
Stafford-Miller Ltd., 166 Great North Road, Hatfield, Herts. Tel: Hatfield 63221.

TRUGEL
Nicholas

Nicholas Laboratories Ltd., 225 Bath Road, Slough, Bucks. Tel: — Slough 23971. Grams: — Nicholas Slough. Telex: — 848388.

W. B. Pharmaceuticals, P.O. Box 23 Bracknell, Berkshire. Tel: Bracknell 50222. Telex: 847634.

UROLOGICAL FOLEYS
Warne Surgical Products Ltd., South Way, Andover, Hampshire SP10 5GB. Tel: Andover 4261. Telex: 47236.

WATER PIK
Teledyne Water Pik (UK) Heathrow House, Bath Road, Cranford, Hounslow. Tel: 01-897 2501.

WHIRLING SPRAYS
Saftron, 5 Rowlands Road, Worthing, West Sussex 3JJ BN11 Tel: Worthing (0903-34034).
William Freeman & Co. Ltd., Suba-Seal Works, Staincross, Barnsley, South Yorkshire. Tel: Barnsley, 84081. Telex: 547186.

WHISTLING POPS
Nicholas

Nicholas Laboratories Ltd., 225 Bath Road, Slough, Bucks. Tel: Slough 23971. Grams: Nicholas, Slough. Telex: 848388.

WHOLESALERS
M. Baum, Wholesale Chemists Ltd., Monkwearmouth, Sunderland. Tel: Sunderland 71081.

M6
CASH & CARRY
(T. BRYANT & SON LTD.)
OLD BOSTON TRADING ESTATE
PENNY LANE, HAYDOCK
Telephone:
Ashton in Makerfield 76644
Service to the Independent Trader

ZEISS SUNGLASSES
Carl Zeiss (Oberkochen) Ltd., 3136 Foley Street, London W1P 8AP. Tel: 01-636 8050 (15 lines) Telex: 24300.

Typesetting and graphics by Tottenham Typesetters Ltd., London N15. Printed by Riverside Press Ltd., Whitstable, Kent. Published by BENN PUBLICATIONS LTD., 25 New Street Square, London EC4A 3JA. Registered at the Post Office as a Newspaper 21/23/16s.

APOCAIRE PROFIT SHOW

The 'STAR BRANDS' for MAY to give your Store 'TOP BILLING.'

PRODUCT	SIZE	APOCAIRE RETAIL PRICE
ALBERTO		
GET SET HAIRSPRAY	300g	55p
VO5 SHAMPOO	90cc	24p
Shows 19% Gross Profit		
ALLURELL		
HAIR SPRAY	135g	69p
Shows 23% Gross Profit		
ANDREX		
TOILET TISSUE	2 Roll Pack	31p
Shows 15% Gross Profit		
BORN BLONDE		
HAIR COLOURANT	–	65p
Shows 20% Gross Profit		
BRAN SLIM		
TABLETS	60	1.29p
Shows 22% Gross Profit		
COLGATE		
DENTAL CREAM	Large	27p
Shows 17½% Gross Profit		
DENCLEN		
DENTURE CLEANER	62ml	32p
Shows 20% Gross Profit		
ELASTOPLAST		
AIRSTRIP	(7921)	29p
STRETCH FABRIC	(4120)	18p
Shows 20% Gross Profit		
HARMONY		
HAIR COLOURANT	–	33p
Shows 21½% Gross Profit		

PRODUCT	SIZE	APOCAIRE RETAIL PRICE
JOHNSONS		
COTTON BUDS	20	14p
Shows 20% Gross Profit		
KLEENEX		
BOUTIQUE	–	26p
Shows 17% Gross Profit		
KOTEX		
NEW FREEDOM TOWELS	10	32p
Shows 18.3% Gross Profit		
MATEY		
BUBBLE BATH	340cc	44p
Shows 20% Gross Profit		
MUM		
ROLL–ON REFILL	28ml	30p
Shows 20% Gross Profit		
PALMOLIVE		
SHAVING CREAM	Large	33p
(Lather/Brushless)		
Shows 20% Gross Profit		
STYLE		
HOME PERM	Small	48p
Shows 20% Gross Profit		
TUFTY TAILS		
NAPPIES – BABY	20	64p
Shows 20% Gross Profit		
VOSENE		
SHAMPOO	Large	39p
Shows 20% Gross Profit		

OTHER SIZES OF THESE PRODUCTS AVAILABLE.

PLEASE CONSULT THE APOCAIRE EXCLUSIVE PROMOTION DETAILER OR CONTACT YOUR LOCAL SANGERS BRANCH/REPRESENTATIVE

DISPLAY CARDS SUPPLIED FREE

We asked women "Who do you think these new products will appeal to?" "Me." They replied

A recent Market Survey showed a surprising gap in the nail care market.

Not a single range devoted entirely to nail care.

Who better to fill that gap than Fulford Williams?

After all, for many years they've been providing the basics for beautiful nails through Cutipen, the unique self-contained cuticle remover with the special shaper tip.

So now they've gone one step further and developed a whole new Cutipen range. Just for Nails.

Loved, in independent research, by your potential customers.

And backed by widespread advertising. Both pages and half pages in full colour in 11 major women's magazines, reaching 4½ million ladies anxious to have beautiful nails.

The range comes complete in an attractive counter display unit which introduces the special offer of 10p off each product.

So ring 01-428 1055/6 and cash in on a very easy way to make money out of beautiful nails.

JUST FOR NAILS BY *Cutipen*

A FULFORD WILLIAMS PRODUCT

Fulford Williams (Int.) Ltd., Cornwall Road, Hatch End, Pinner, Middlesex HA5 4JY. Tel: 01-428 1055/6.